YOUTH's INTRODUCTION TO TRADE and BUSINESS.

CONTAINING

I. Tables of the most usual Clerk-like Contractions of Words; with proper Directions how to address Persons of *Elevated Rank*, and those in Office.

II. Acquittances and Promissory Notes diversified, and adapted to such Circumstances as occur in Real Business.

III. Variety of Bills of Parcels, and Bills on Book-Debts, to enter the Learner in the Manner and Methods of Commerce, and to make him ready at Computation.

IV. Bills of Exchange, with necessary Directions for the right Understanding and Management of Remittances, with various Orders for Goods, Lettters of Credit, Invoyces, and other Merchant-like Examples.

V. Authentic FORMS of such Law-Precedents, as are most frequently met with in the Course of Traffic.

VI. Great Variety of Questions interspersed, to exercise the Learner in the Common Rules of *Arithmetic*, to use him to *Calculation*, and to bring him acacquainted with the *Use*, the *Properties* and *Excellency* of NUMBERS, by Way of Recreation.

By M. CLARE, late Master of the Academy in SOHO-SQUARE, LONDON.

The NINTH EDITION,
Revised and Improved, with the Addition of an APPENDIX, containing,
The Methods of SOLVING All the Intricate Questions.
By BENJAMIN WEBB,
Writing-Master and Accountant, and Master of the Grammar School belonging to the Worshipful Company of *Haberdashers* in *Bunhill-row*; Author of the TABLES for Buying and Selling STOCKS, and of the COMPLETE ANNUITANT.

TO
Master GEORGE ONSLOW,

ONLY SON OF

The Right Hon. ARTHUR ONSLOW, Esq;

SPEAKER of the Honourable HOUSE of COMMONS.

DEAR SIR!

FROM the large Experience I have had of your excellent Capacity, and your amiable Difposition, I have pregnant Hopes of your becoming one Day a confiderable, that is, a wife, a good, and a ufeful Man.

FROM this Expectation it is, that I am ambitious of prefenting you this Edition of a fmall Work, which I have the Pleafure to imagine will be of Service to You, Sir, when you come to dip into NUMBERS; a Qualification equal, if not fuperior in Value, to moft we learn befides.

YOUR Worthy Father fits, where he has been long a Witnefs of the Advantage, with which the Calculift and Accomptant are always heard. And no Wonder; fince Arguments, drawn from Arithmetical Computations, carry with them uncommon Weight, having their Foundation in Reafon and in Truth.

I am, DEAR SIR,
Your moft Affectionate, and
Moft Obliged, Humble Servant,

SOHO-SQUARE,
Jan. 1, 1739.

Martin Clare.

THE
PREFACE.

IN the Commerce of the World, Difpatch in Bufinefs is no ordinary Accomplifhment; which being the Refult of a well-directed Education, it cannot be amifs in a Treatife of this Nature, to touch on thofe Parts of it, which are more immediately neceffary for forming the Man of Bufinefs.

After the Youth's firft Years have been employed in READING his native Language, and proper Care has been taken to explain and inform him of the Meaning and Force of Words as they prefent; the next Step is to initiate him in the Rudiments of GRAMMAR : In which, at firft, nothing is more material, than to be very particular in the regular Divifion and Formation of Syllables. While this is doing, it is necffary for him to learn to WRITE; in which, the Teacher will find fufficient Reafon to exercife his Vigilance, and to guard againft the ill Habits his Charge will be apt to contract, both in Pofture and Performance.

It is not my Defign to defcribe at large what Part of Grammar-learning is moft neceffary for this End, nor to trace out the Methods by which it is to be effected; thofe muft be left to the Skill and Difcretion of his Inftructor: I fhall, therefore, only recommend two Things, not generally made ufe of.

I. If the Scholar be enjoined to copy all his Exercifes, after Correction, into a fair Book, it will not only point out to him his Miftakes, and inform him how to mend them, but will even infenfibly improve his Hand, and fix it in a bold and manly Character.

II. As the principal End of inftructing a Youth, defigned for Bufinefs, in the Latin Tongue, is to make him a greater Mafter of his own; the Way to apply, and render it moft effectual to that End, is to ufe him frequently to Englifh Tranflations. The Meaning and Senfe of his Authors will thereby be impreffed on his Mind, with greater Advantage, and in Time, he will acquire a clear, juft and natural Manner of expreffing his Thoughts, on all Occafions; to which, if the Reading of good Authors in our own Language be added, a due Proficiency may be expected, not only in Spelling and
Propriety

Propriety of Stile, but also in that Elegance and good Sense, which distinguish one Man from another, and are absolutely requisite for all, that hope to be considerable in the World.

As the FRENCH TONGUE is, at present, the general Language of Europe, and consequently most proper for Correspondence, it ought to be recommended to the Learner, among his Grammar Studies, when his Parts will admit of so great a Variety; but not before he is sufficiently grounded in the Latin, from whence the French is chiefly derived.

WRITING must always be regarded as an essential Part of every Day's Employment; because the free and Clerk-like Manner of Writing, fit for the dextrous Dispatch of Business, is not attainable by speculative Notions, or on a sudden, but by Practice gradually, under the Direction of an able Master; nor can any other Means be depended on, to make the Hand easy, bold, and masterly.

ARITHMETIC now must be entered upon; in teaching which Art, the ensuing Treatise will be of some Advantage: The Bills of Parcels and those on Book-Debts, are such Examples of Computation, as daily occur in Commerce, and which are of use to illustrate the practical Rules, and apply them to Business. The Variety of Promissory Notes, Acquittances, Bills of Exchange, with Directions relating to them, and Things of like Nature, are all intended to give the young Clerk a Taste and Idea of the Customs and Usages of Dealers, and to obviate the Difficulties he would otherwise meet with, through his not being acquainted with Things of that general Concern in Traffic.

Transcribing and computing the Invoyces and other mercantile Precedents, will yield him a no less profitable Exercise, and conduce in some Measure, to the Understanding the Practice of BOOK-KEEPING; a Science so universally useful, that, without keeping regular Accompts, the Trader risks the sacrificing an improvable Fortune, to Negligence and Chance; the Man of Estate is thereby made subject to frequent Impositions, always to Uncertainties; and the Man in Office is likewise exposed to numberless Perplexities; and, indeed, none can properly be said to be a Judge of Business, whose Abilities, how considerable soever, are not assisted by some Insight and Skill therein.

The

The Collections of Questions interspersed, all of them solvable by the Rules of common Arithmetic, are subjoined, to exercise the Pupil in Numbers, to accustom him to Calculation, and with a Design to excite his Curiosity to look farther into their Properties and Use, not only as they regard themselves, but also as they respect Lines, Surfaces, and solid Bodies.

DRAWING is an Attainment worth every Man's Pursuit; but it is indispensibly necessary for the Mechanic: Since, among its many other Advantages, he is thereby able to convey his Designs to the Apprehensions of others, by a Sketch off-hand, with much Clearness and Certainty.

GEOGRAPHY, as it informs us of the Situation of the several Parts of the Earth, the Distance and Bearing of Places, the Extent, Language, Religion, and Products of different Countries; as it is the Key to History and the public News, and needful to the forming a right Judgment of our Country, its Interest and Concerns; is of too great Importance to be neglected.

To these more necessary Qualifications of the Man of Business, the practical parts of the Mathematics, as MEASURING, GAUGING, SURVEYING, NAVIGATION, are to be considered as very advantageous and useful Additions: The more speculative Parts, as GEOMETRY, ASTRONOMY, with EXPERIMENTAL and NATURAL PHILOSOPHY, and ALGEBRA, are also Informations that give a sublime and noble Turn of Thought; and which, though they may not seem Occurrences in immediate Business or Commerce, yet do they frequently conduce to the Improvement of both, and are always Amusements highly proper for the virtuous and intelligent Mind.

I have supposed the Learner of a promising Genius, and teachable Disposition; happy in Parents able and willing to allow him an handsome and proper Education; and happy in Teachers, who want neither Capacity nor Integrity in their Calling. Where all those do not concur, the Misfortune is not easily retrieved. When once the Time of Youth is lost, the Cares of Life are so great and many, that few or none are ever able to recover themselves from the low Condition always attending the Want of a proper and early Education.

SOHO-SQUARE,
Dec. 30, 1719.   **M. Clare.**

THE
CONTENTS.

An

YOUTH'S INTRODUCTION TO TRADE *and* BUSINESS, &c.

IT is a common Thing with young People, even those who must be allowed to understand the Principles of *Arithmetic* very well, to be often at a Loss, when but a simple Proposition is made them, a little out of the customary Form or common Road. In order to remedy this, it cannot be improper, in a Treatise of this Nature, here and there, at proper Stages, to intersperse little Exercises, partly in the Way of Business, partly of Amusement and Information, to exemplify and apply what they more methodically learn. In doing which, it will not be amiss to set them down as it were promiscuously, that their Genius and Judgment may the better appear in the Solution of them; and to those Questions which may seem a little too intricate, for the Learner's Encouragement are given the Methods of solving them.

RECREATION I.

I. WRITE down the Value of the following Numbers in Words at length, viz, 370087. 418427900. 6210003745. 41027308751. 293417604712. 6180020306-94713. 47038066250433251889411.

Usually a less literal Number placed after a greater, augments its Value; before, diminishes it.

The chief Roman Numbers are, I, 1. V, 5. X, 10. L, 50. C, 100. D or IƆ, 500. M or CIƆ, 1000. IƆƆ, is 5000. IƆƆƆ, is 50000, *&c. Tenfold when repeated: So* CCIƆƆ, is 10,000.

A Line drawn over any Number less than a Thousand intimates so many Thousands; as LXX, is 70,000. C, is 100,000, *and* M, *a Million.*

II. Decypher the following Numbers, and find their Sum, IV. VI. IX. IIX. XIII. XLV. LXXXI. XCVI. CXC. CD. DCC. MCL. MDCXLVIII. MCCM. IƆƆIƆCCCLVII. VICCLXXXX. *Answer,* 1017297.

III. In

B

III. In Figures exprefs: A Million and a half in *South-Sea Bonds*. Ninefcore and fourteen Thoufand, eight Hundred *Sheep*. Threefcore and twelve Thoufand, thirteen Hundred *Weight of Lead*. Fifteen Thoufand and fourfcore Million of *Styvers*. One Hundred and two Thoufand, two Hundred and fix Million, feventy Thoufand feven Hundred and feven *Ryals of Plate*. Three Million and thirty three Thoufand and thirty *Pieces of Eight*. Four thoufand and forty Hundred Pounds, thirty four Shillings, and fourteen Pence, five Farthings.

IV. For the Practice of Figure-making, in even Ranks, fet down all the Numbers in the State-Lottery, as they rife fuc-ceffively, between 7500 exclufive, and 8000 inclufive; and find their Sum.   *Anfwer*, 3875250.

Find the Number of Chapters contained in the New Tef-tament, after that the Number of Verfes, and give their joint Sum.   *Anfwer*, together 8217.

Do the fame by the five firft Books of Mofes.
          Anfwer, together 6039.

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A TABLE of the Clerk-like Contractions of Words, for Difpatch of Bufinefs.

A. Anfwer.

A. B. Batchelor of Arts; *Artium Baccalaureus.*

A. Bp. Archbifhop.

Abr. Abraham.

A. D. In the Year of our Lord; *Anno Domini.*

Acct. Accompt.

Adml. Admiral.

Admr. Adminiftrator.

agft. againft.

Alexr. Alexander.

a. m. before Noon; *ante meridiem.*

A. M. Mafter of Arts; *Artium Magifter.*

A. M. In the Year of the World; *Anno Mundi.*

Amor. Amount.

Amft. Amfterdam.

And. Andrew.

Anth. Anthony.

Arth. Arthur.

Aff. Affigns.

Affeffr. Affeffor.

Atto. Attorney.

Aug. Auguftine.

B. D. Batchelor of Divinity; *Baccalaureus Divinitatis.*

Barth. Bartholomew.

Bart. Baronet.

Benj. Benjamin.

Bp. Bifhop.

Britn. Britain.

Bur. Burlace.

Bufhl. Bufhel.

B. V. Blefled Virgin.

Bucks. Buckinghamfhire.

C. in

C. in Number 100; *Centum.*
C.C.C. Corpus Christi College.
⊕. a Hundred Weight.
Capt. Captain.
Cent. or *Centum,* an Hundred.
Chap. Chapter,
Cha. Charles.
Ch. Church.
Chancr. Chancellor,
Chr. Christopher.
Cit. City, Citizen, Citadel,
Clem. Clement.
Cl. Clerk, Clergyman.
C. P. S. Keeper of the Privy-Seal; *Custos Privati Sigilli.*
Co. County.
Col. Colonel.
Collr. Collector.
Comp. or *Co.* Company,
Comrs. Commissioners.
Const. Constable,
Conts. Contents.
Corresps Correspondent,
Counselr. Counsellor.
C. S. Keeper of the Seal; *Custos Sigilli.*
Cr. Creditor,
Custo. Custom,
Curt. Current.
D. in Number 500.
D. Duke, or Duchess,
D. D. Doctor of Divinity; *Doctor Divinitatis.*
d. a Peny; *denarius.*
Dan. Daniel.
Dav. David,
dld. delivered.
Den. Denis.
Dep. Deputy.
Devon. Devonshire.
Do. Ditto, the same.
Dr. Debtor, Doctor.

Dor. Dorothy.
Dorset. Dorsetshire.
dy. day.
E. Earl, Evening, or East.
E. A. P. Priest of the Church of England; *Ecclesiæ Anglicanæ Presbyter.*
Edm. Edmund.
Edw. Edward.
e. g. for Example; *exempli gratiâ.*
Elea. Eleanor.
Eliz. Elizabeth,
Esqr. Esquire.
Engd. England.
Excelt. Excellent.
Exa. Example.
Exo. Exchange,
Exr. Executor.
Exon. Exeter.
fl. the Ending *ful.*
Ft. Fort, Foot, and Feet.
Frd. Friend.
Fr. French,
Fra. France,
Factr. Factor.
fd. the Ending *ford.*
F. R. S. or *R. S. S.* Fellow of the Royal Society; *Frater Regalis Societatis* or *Regalis Societatis Socius.*
Fran. Francis or Frances,
Fred. Frederick.
Fret. Freight.
Gab. Gabriel.
Gar. Garrison.
Geo. George.
Gent. Gentleman,
Genl. General.
Genmo. Generalissimo.
Ger. Gerrard.
Gilb. Gilbert.

B 2   *Govr.*

Gov. Governor.

G. R. King George; *Georgius Rex*.

Gr. Great.

Greg. Gregory.

Gr. Grofs.

Han. Hannah.

Hants. Hampfhire.

Hen. Henry.

Honble. Honourable.

Hond. Honoured.

Honrs. Honours.

Holld. Holland.

Hum. Humphry.

I. in Number 1.

Jac. Jacob.

Ja. James.

Jeo. Jeoffroy.

Jer. Jeremiah.

J. D. Doctor of Laws; *Jurium Doctor*.

J. H. S. Jefus the Saviour of Men; *Jefus Hominum Salvator*.

Insto. Inftance.

Inst. Inftant.

Impl. Imperial.

ibid. in the fame place; *ibidem*.

i. e. that is; *id eft*.

id. the fame; *idem*.

Instl. Inftal

Jno. John.

Jon. Jonathan.

Jof. Jofeph.

Juft. Juftice.

Ingenr. Ingineer.

Kg. King.

Knt. Knight.

Kath. Katherine.

L. in Number 50.

l. Book; *liber*.

Lau. Laurence.

L. C. J. Lord Chief Juftice.

Ldy. Lady.

Leo. Leonard.

Lew. Lewis.

Ld. Lord.

L L. D. Doctor of Laws; *Utriufque Legis Doctor*.

L. S. the Place of the Seal; *Locus Sigilli*.

Lop. Lordfhip.

Laip. Ladyfhip.

Lieut. Lieutenant.

Lib. Liberty.

£. a Pound Sterling.

lb. a Pound Weight; *Libra*.

Lancafh. Lancafhire.

Londo. London.

Lyd. Lydia.

M. in Number 1000; *Mille*.

Ma. Mary.

M. Monfieur, Marquis.

Madm. Madam.

M. A. Mafter of Arts; *Magifter Artium*.

Majty. Majefty.

Mar. Margaret, Martha, Margery.

Mat. Matthew.

Mn. Martin.

M. D. Doctor of Phyfic; *Medicinæ Doctor*.

Mdm. Memorandum.

Mr. Mafter.

Mrs. Mrs. Miftrefs.

Math. Mathematics.

Meffrs. Mafters.

Mercht. Merchant.

Mich. Michael.

Michs. Michaelmas.

Minr. Minifter.

Middx. Middlefex.

Measr. Meafure.

Mon.

Mon. Month.
Mos. Moses.
Monsr. Monsieur.
Mss. Manuscripts; *Manuscripta.*
M. S. Sacred to the Memory; *Memoriæ Sacrum.*
mt. the Ending *ment.*
Nat. Nathanael.
Neh. Nehemiah.
Nic. Nicholas.
N. North.
N. B. Remark; *Nota bene.*
Northn. Northampton.
No. Number; *Numero.*
Nt. Neat, or Netto.
N. S. New Stile.
ob. Half-peny; *obolus.*
Objt. Object.
Obedt. Obedient.
or. Our.
Ordr. Order.
O. S. Old Stile.
Oli. Oliver.
Omnipt. Omnipotent.
Ow. Owen.
Oxon. Oxford.
pd. Paid.
℔ by; *per.*
℔ *Cent.* by the Hundred; *per Centum.*
Pat. Patrick.
Partr. Partner.
Parlmt. Parliament.
Pet. Peter.
Philomath. a Lover of Learning; *Philomathes.*
Ph. Philip.
p. m. Afternoon; *post meridiem.*
Ps. a Piece.
Principl. Principal.

Proct. Proctor.
Prop. Proposition.
Prest. Present.
q. d. as if he should say; *quasi dicat.*
Q. E. D. which was to be demonstrated; *Quod erat demonstrandum.*
Q. E. I. which was to be found out; *Quod erat inveniendum.*
Q. Question, Query.
qrt. Quart.
qt. Quantity.
qr. quarter or $\frac{1}{4}$ part.
Ra. Ralph.
Ran. Randal, Randulph.
Rich. Richard.
R. King or Queen; *Rex aut Regina.*
Rt. Right.
Retn. Return.
Rectr. Rector.
Revd. Reverend.
Regt. Regiment.
Royl. Royal.
Recd. Received.
Reb. Rebecca.
Remr. Remainder.
Recr. Receiver.
Regr. Register.
Rob. Robert.
Rog. Roger.
Rol. Roland.
Rotto. Rotterdam.
Salop. Shropshire.
Sar. Sarah.
S. South.
Sr. Sir.
S. or *St.* Saint.
std. the Ending *stead.*
sd. said.
Sergt. Serjeant.

Sh.

Sh. Shire.

s. a Shilling; *Solidus.*

Servt. Servant.

Secry. Secretary.

Scotld. Scotland.

Sim. Simon.

Sol. Solution.

Sp^a. Spanish.

Spirit^l. Spiritual.

S. T. P. Doctor of Divinity; *Sanctæ Theologiæ Professor.*

Steph. Stephen.

Templ. Temporal.

Theo. Theophilus.

Tho. Thomas.

Tim. Timothy.

Tob. Tobias.

Tot. Total.

Treasy. Treasury.

Tr. Tare.

Tr^t. Tret.

V. in Number 5.

v^n. vain.

viz. that is to say; *videlicet.*

v. see; *vide.*

v^r. verse.

Val. Valentine.

Ven. Venerable.

Vin. Vincent.

Vict^r. Victualler.

Vic^r. Vicar.

Ult. the last; *ultimus.*

wk. week.

Wal. Walter.

W. West.

Ward^n. Warden.

Westm^r. Westminster.

W^m. William.

Win. Winifred.

Wilts. Wiltshire.

wt. weight or weighing.

w^t. what.

wch. which.

wth. with.

w^n. when.

Worl. Worshipful.

Wor^p. Worship.

wond^l. wonderful.

X. in Number 10.

X^t. Christ.

X^an. Christian.

Xtm^as. Christmas.

y^e. the.

y^n. then.

yor. your.

yo^rs. yours.

y^s. this.

y^t. that.

&. and.

&c. and forth; *et cætera.*

Zac. Zachary.

Jan.	January.
Feb.	February.
Mar.	March.
Apr.	April.
May.	May.
Jun.	June.
Jul.	July.
Aug.	August.
Sept.	} September.
7ber.	
Oct.	} October.
8ber.	
Nov.	} November.
9ber.	
Dec.	} December.
10ber.	
X^br.	

REGREA

RECREATION II.

(1) A Perſon dying, left his Widow the Uſe of 5000 *l*. To a Charity he bequeathed 846 *l*. 10s. To each of his three Nephews 1230 *l*. To each of his four Neices 1050 *l*. To twenty poor Houſe-keepers five Guineas each, and 200 Guineas to his Executor. What muſt he have died poſſeſſed of?   *Anſwer,* 14051 *l*. 10s.

(2) A Nobleman, going out of Town, is informed by his Steward, that his Corn-chandler's Bill comes to 123 *l*. 19s. His Brewer's to 41 *l*. 10s. His Butcher's to 212 *l*. 6d. To his Lordſhip's Baker is owing 24 *l*. To his Tallow-chandler, 13 *l*. 8s. To his Taylor, 137 *l*. 9s. 9d. To his Draper, 74 *l*. 13s. 6d. His Coachmaker's Demand was 214 *l*. 16s. 6d. His Wine Merchant's 68 *l*. 12s. His Confectioner's, 16 *l*. 2s. His Rent 82 Guineas. And his Servants Wages, for half a Year, came to 46 *l*. 5s. What Money muſt he ſend to his Banker for, in caſe he would carry with him, 50 *l*. to defray his Expences on the Road?   *Anſwer,* 1108 *l*. 18s. 3d.

(3) A Merchant buys up ſix Bags of Canterbury Hops, N° 1. of which weighed, *Cwt.* 2. 2. 10. N° 2. *Cwt.* 2. 1. 16. N° 3. *Cwt.* 2. 0. 24. N° 4. *Cwt.* 2. 3. only. N° 5. *Cwt.* 2. 1. 12. N° 6. *Cwt.* 2. 1. 16. beſides a couple of Pockets D° that weighed, *lb.* 58½ each: How many Hundred-weight has he to pay Carriage for, on bringing them to Town?   *Anſwer, Cwt.* 15. 2. 27.

(4) A Corn-factor buys ſeventy Quarter of Oats for 46 *l*. 7s. 6d. thirty-eight Quarter of Beans, for 100 *l*. twelve Quarter of Peas, which coſt 16 *l*. 16s. eighty-eight Quarter of Barley, for 73 *l*. 8d. ſixteen Ditto of Wheat, for 56 *l*. 9s. 10d. and ſix Quarter of Rye, for 4 *l*. 1s. 6d. The Water-carriage of all comes to 13 *l*. 2s. 7d. his Riding Charges to 1 *l*. 13s. and if he clears eighteen Guineas by the Bargain, What do his Bills of Parcels amount to?
                                    Anſwer, 330 *l*. 9s. 1d.

(5) The Collector of Caſh has been out with Bills, and gives Account, that *A.* paid him 13 *l*. and half a Crown; *B.* 2 *l*. 13s. *C.* 14s. and a Groat; *D.* 1 *l*. 9s. 8d. ½. *E.* 11 *l*. 6d. ¼. *F.* 17s. and a Teſter; *G.* 12s. 2d. *H.* a Pound and

and half a Guinea; *J.* a Moidore and 13*s.* *K.* two Broad-pieces of 23*s.* each, a Jacobus of 25*s.* and a Shilling; *L.* nine Pound and a Mark; *M.* 12*l.* 12*s.* *N.* a Bank Note of 15*l.* and *O.* three Crown-pieces and an Angel: What Cash has he in Charge? *Answer,* 76*l.* 2*s.* 6*d.* ¾.

(6) In a Gentleman's Service of Plate, there are fourteen Dishes, weighing *oz.* 193. 13 *dwt.* Plates thirty-six, weighing *oz.* 421. 11 *dwt.* Four Dozen of Spoons, weighing *oz.* 104. 6 *dwt.* Six Salts chased, weighing *oz.* 32. Knives and Forks, weighing *oz.* 83. 9 *dwt.* Four Presenters, weighing *oz.* 113. 4 *dwt.* In Mugs, Tumblers, Beakers, and other odd Pieces, weight *oz.* 264. 18 *dwt.* A Silver Tea-kettle and Lamp, weighing *oz.* 126. 9 *dwt.* and the rest of that Equipage, *oz.* 93. 2 *dwt.* What Quantity of Plate had the Butler under his Care? *Answer,* *oz.* 1432. 12 *dwt.*

(7) A Horse in his Furniture is worth 35*l.* 10*s.* out of it 12*l.* 12*s.* How much does the Price of the Furniture exceed that of the Horse? *Answer,* 10*l.* 6*s.*

(8) *A.* of Amsterdam, is Debtor to *B.* of Bristol. For Mercery Wares as ℈ Factory, 418*l.* 2*s.* 6*d.* For forty *Cwt.* of Cheshire-Cheese, 52*l.* 18*s.* For English Broad-Cloth, fifteen Pieces, 317*l.* 12*s.* 10*d.* For nineteen Fodder of Lead, 320*l.* For twelve Tons of Bar-Iron, 173*l.* 3*d.* For eight Tons of Copper, 1110*l.* 10*s.* 1*d.* For his Acceptance of a Bill drawn, 88*l.* 14*s.* For another paid for Honour, 50*l.* Ten Dozen Morocco Skins, 28*l.* 15*s.* 4*d.* Paid Convoys, Insurances, and Port-charges, 43*l.* Warehouse Room, Postage, Sledage, Boatage, and incidental Charges, 5*l.* 5*s.* The Factorage of all came to 112*l.* 6*s.* For what Sum must *B.* draw to clear the Accompt? *Answer,* 2729*l.* 4*s.*

(9) Having a Piece of Ground, 127 Feet in Front, let off to *A.* 57 Feet to build on at one End, and to *B.* at first 27 Feet and ½ from the other, which he afterward by Consent extended to 42 Feet; what Ground was left me in the Center? *Answer,* 28 Feet.

(10) How much is *A.* (born sixteen Years ago) elder than *B.* who will come into the World fourteen Years hence? *Answer,* 30 Years.

Having

HAving obſerved the Miſtakes young Perſons are liable to, for want of an Opportunity of informing themſelves of the Stile and Titles due to Perſons in Office, and thoſe of elevated Rank and Fortune, it cannot be improper, in this Place, to ſhew the fitting Directions and Addreſs to Perſons of Diſtinction, the Chief of which being known, the reſt will be attained without much Difficulty.

 ** Note, *The Terms of Addreſs are put in a different Character.*

To the Royal Family.

TO the King's moſt Excellent Majeſty. *Sire, or May it pleaſe Your Majeſty.*

To his Royal Highneſs *George* Prince of *Wales*. *May it pleaſe Your Royal Highneſs.*

And in like manner to any other of the Royal Family, changing what is to be changed.

To the Nobility.

TO His Grace L.* Duke of D.* *My Lord Duke, Your Grace.*

To the moſt Noble *P.* Lord Marquis of *C*. *My Lord Marquis, Your Lordſhip.*

 * *The Learner is to ſubſtitute real Names and Titles in the Place of theſe initial Letters all through the following Directions.*

To the Right Honourable *J.* Earl of *B*. *My Lord, Your Lordſhip.*

To the Right Honourable *G.* Lord Viſcount *T*. *My Lord, Your Lordſhip.*

To the Right Honourable *T.* Lord *O*. *My Lord, Your Lordſhip.*

The Wives of Noblemen are addreſſed in Terms equal to their Huſband's Rank.

The Title of *Lord* and *Right Honourable* is given, by Courteſy, to all the Sons of *Dukes* and *Marquiſes*, and to the eldeſt Sons of *Earls*; and the Title of *Lady* and *Right Honourable* to all their Daughters: The younger Sons of *Earls* are all *Honourable* and *Eſquires*.

C   The

The Sons of *Viscounts* and *Barons* are stiled *Esquires* and *Honourable*, and their Daughters are directed to, *The Honourable* Mrs *N. N.* but without other Stile; they have however Rank among the first Gentry without Title.

The King's Commission confers the Title of *Honourable* on any Gentleman in a Place of Honour or Trust.

The Stile of *Right Honourable* is due to no Commoner, but such as are Members of his Majesty's most Honourable Privy-Council; except the three Lord Mayors, of *London*, *York*, and *Dublin*, and the Lord Provost of *Edinburgh*, during Office.

Every considerable Servant to the King, upon the Civil or Military List, or to any of the Royal Family, is stiled *Esquire*, *pro tempore*.

    P. C. *in the Margin denotes a Privy-Counsellor, and therefore* Right Honourable.

To the Parliament.

TO the Right Honourable the Lords Spiritual and Temporal in Parliament of *Great-Britain* assembled. *My Lords; May it please Your Lordships.*

To the Honourable the Knights, Citizens and Burgesses, in Parliament of *Great-Britain* assembled. *Gentlemen, May it please Your Honours.*

P. C. To the Right Honourable Sir *G. H.* Speaker of the Honourable House of Commons, *Sir.*

To the Clergy.

TO the Most Reverend Father in God *W.* Lord Archbishop of *C My Lord, Your Grace.*

To the Right Reverend Father in God *E.* Lord Bishop of *L. My Lord, Your Lordship.*

To the Right Reverend the Lord Bishop of *G.* Lord Almoner to his Majesty.

To the Reverend Mr (or Dr if the Degree of Doctor has been taken) *A. B.* Dean of *C.*

To the Reverend Dr——Chancellor of *D.*

To the Reverend Dr——Archdeacon of *E.*

To the Reverend Mr——Prebendary of *F.*——Rector of *G.*——Vicar of *H.*—— Curate of *J.*——

                                          The

*The proper Address to these last Gentlemen is in general
only* Sir ; *and being written to,* Reverend Sir.
Deans and Archdeacons are called usually Mr Dean,
and Mr Archdeacon.

To the Officers of His Majesty's Houshold.

THEY are generally addressed to according to their
Rank and Quality, but sometimes according to their
Office; as *My Lord Steward, My Lord Chamberlain,*
Mr *Comptroller,* Mr *Vice-Chamberlain.*

> *In Superscriptions of Letters, relating to Gentlemens
> Employments, their Stile of Office ought never to
> be omitted.*

To the Commissioners and other Officers on the Civil List.

TO *the Right Honourable R.* Earl of *W.*——* Lord
Privy-Seal.
To his Grace J. Duke of *M.* Lord President of the Council.
To the Right Honourable N. Viscount *P.* Lord Great Cham-
berlain—— Earl Marshal of *England*——One of His
Majesty's Principal Secretaries of State, *&c.*
To the Right Honourable the Lords Commissioners of the
Treasury. Ditto, of Trade and Plantations. Ditto, of
the Admiralty, *&c.*

> Note, *If there be a Nobleman, or even a Commoner
> who is a Privy-Counsellor, among any Set of Com-
> missioners, it will be proper to stile them collectively*
> Right Honourable. *The usual Address then is,*
> Your Lordships.

To the Honourable the Commissioners of—— * His Majesty's
Customs. Ditto, of the Revenue of Excise. Ditto, for
the Duty on Salt. Ditto, for His Majesty's Stamp-
Duties. Ditto, for Victualling His Majesty's Navy, *&c.*

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* These Blanks are also to be filled up as before with Names and Dignities, and
made so many several Directions, repeating always the general Stile preceeding the
Blank; for Distinction here put in the Italick Character.

To the Soldiery.

TO the Honourable *A. B. Esq*; Lieutenant General of His Majesty's Forces. Ditto, Major General. Ditto, Brigadier General *of His Majesty's Forces.* Sir; *Your Honour.*

To the Right Honourable *J. Earl of S. Captain of His Majesty's* First Troop of Horse Guards. Ditto, Band of Gentlemen Pensioners. Ditto, Band of Yeomen of the Guard, *&c.*

To the Honourable Colonel *Thomas Pitt.* To Major *Foubert.* To Captain *Audley,* &c. *Sir.*

To the Principal Officers of His Majesty's Ordnance. *Your Honours.*

To *A. B.* Esq; Lieutenant General *of the Ordnance.* Ditto, Surveyor General *of the Ordnance,* &c.

To the Officers of the Navy.

TO His Grace *C.* Duke of *D.* Lord High Admiral of *Great Britain. Your Grace.*

To the Right Honourable *G.* Lord Viscount *T.* Vice or Rear Admiral of *Great Britain.*

To the Honourable Sir *P. Q.* Admiral of the *Blue.* Ditto, Vice Admiral of the *Red.* Ditto, Rear Admiral of the *White.* Sir; *Your Honour.*

To Captain *R. L.* Commander of His Majesty's Ship the *Shoreham,* riding at *Spithead.*

RECREATION III.

(11) A Person was 17 Years of Age 29 Years since, and he will be drowned 23 Years hence: Pray in what Year of his Age will this happen? *Answer, Ætat.* 69.

(12) A Trader failing, was indebted to *A.* 71 *l.* 12 *s.* 6 *d.* To *B.* 34 *l.* 9 *s.* 9 *d.* To *C.* 16 *l.* 8 *s.* 8 *d.* To *D.* 44 *l.* To *E.* 66 *l.* 7 *s.* 6 *d.* To *F.* 11 *l.* 2 *s.* 3 *d.* To *G.* 19 *l.* 19 *s.* And to *H.* a Fine of thirty Marks. At the Time of this Disaster, he had by him in Cash, 3 *l.* 13 *s.* 6 *d* in Commodities, 23 *l.* 10 *s.* in Houshold Furniture, 13 *l.* 8 *s.* 6 *d.* in Plate, 7 *l.* 18 *s.* 5 *d.* in a Tenement, 56 *l.* 15 *s.* in recoverable Book-Debts, 87 *l.* 13 *s.* 10 *d.* Supposing these Things faithfully surrendered to his Creditors, what will they then lose by him? *Answer,* 91 *l.* 5 *d.*

(13) In

(13) In the City of Pekin in China is a Bell weighing, it is said, 120000 Pounds; at Nankin, in the same Country, is another weighing 50000 Pounds. The first exceeds the great Bell at Erfurd, in Upper Saxony, by 94600 Pounds: How much then is the German Bell inferior in Weight to the Second? *Answer,* Near one Half.

(14) Your Grandfather, if living, is 119 Years of Age; your Father actually 63; you are not so old as your Grandsire by 83 Years: What is the Difference in Years between your Father and you? *Answer,* 27 Years.

(15) A Robbery being committed on the Highway, there was assessed on a certain Hundred, in the County of S. the Sum of 373*l.* 14*s.* 8*d.* of which the four Parishes paid 37*l.* 16*s.* 4*d.* apiece, the four Hamlets 28*l.* 3*s.* 10*d.* each, the four Townships 19*l.* 19*s.* each; what was the Deficiency?
Answer, 30*l.* wanting 2*s.*

(16) Received in lieu of two Gold Repeaters, sent to Jamaica in 1730, the five Chests of Indigo following; and on a like Adventure, in 1732, the subsequent five Chests: The Question is, how much Indigo I had less the second Time than the first?

Anno 1730.	Cwt.	qr.	lb.	lb.		Anno 1732.	Cwt.	qr.	lb.	lb.
No 1.	2—	1—	16	Tare 43.		No 1.	1—	3—	07	Tare 32.
2.	2—	2—	11	— 47.		2.	1—	3—	17	— 32.
3.	2—	0—	12	— 41.		3.	1—	2—	10	— 30.
4.	2—	0—	19	— 42.		4.	1—	0—	13	— 27.
5.	2—	3—	17	— 49.		5.	2—	0—	11	— 34.

Answer, 342. *lb.*

(17) *A.* made a Bond for 114*l.* 10*s.* the Interest came to 19*l.* He then paid off forty Guineas, and gave a fresh Bond for what was behind. By the time there was 13*l.* 4*s.* 8*d.* due on the second, for Interest, he paid off 37*l.* 14*s.* 2*d.* more, took up the old Bond, and signed a new one still for the Residue. The Principal again ran on till there was 9*l.* 11*s.* 3*d.* more due, and then he determined to take it up. Pray what Money had his Creditor to receive?
Answer, 76*l.* 11*s.* 9*d.*

(18) Received from my Factor at Alicant, on Account of Sales of Tin, to the Value of 197*l.* 12*s.* Sterling; of Bees-Wax, to 71*l.* 7*s.* 6*d.* of Stockings, to 47*l.* 3*s.* 6*d.* of Tobacco, the Net proceeds whereof were 943*l.* 15*s.* 10*d.* of Cotton, 123*l.* 3*s.* 7*d.* and of Wheat, to the Amount of 116*l.* 5*s.* 6*d.* He at the same time advises, that he has,

Order, shipped for my Account and Risk, Alicant Wines, to the Value of 226 *l*. 16*s*. 6*d*. Figs of 157*l*. 11*s*. 3*d*. Fruit, ninety Chests, cost 104 *l*. 6 *s*. Olives, 136 *l*. 10*s*. Oil, 193 *l*. 17*s*. Raisins, 143 *l*. 4*d*. and Spanish Wool, to the Value of 73 *l*. 13*s*. 8*d*. the Commission of the whole Consignment came to 71 *l*. 18*s*. 11*d*. The Question is, which of us is to draw for the Difference, and how much?

Answer, 391 *l*. 14*s*. 3*d*. *is to be remitted by him*.

(19) *A. B*. and *C*. open an Account with a Banker, Jan. 11. 1739. and put into his Hands, *viz. A*. 17 *l*. 17*s*. *B*. 34*l*. 11*s*. 6*d*. *C*. 28*l*. 18*s*. 10*d*. On the 21st *A*. withdrew 9*l*. 10*s*. and *C*. advanced 12 *l*. and a Crown. The 24th *B*. called for 6 *l*. 10*s*. The 30th *C*. wanted 19 *l*. 8*s*. 4*d*. On the 12th of Feb. *B*. deposited with him eleven Carolus's and three Moidores. On the 19th *A*. sent for 5*l*. and a Noble more; but on the 24th, returned him 42 *l*. On the 2d of March, *C*. paid in twenty Guineas, and *B*. drew for six. The 14th *B*. sent in 17 *l*. 8*s*. 8*d*. and the 17th *A*. had back 12 *l*. 2*s*. 6*d*. On the 19th, they sent for five Guineas a Man, and on the 24th they returned that Sum, and ten Marks a piece more: How much did their said Banker owe them jointly and separately at *Lady-Day*?

Answer, to *A*. 39 *l*. 11*s*. 2*d*. *B*. 62 *l*. 11*s*. 6*d*. *C*. 49 *l*. 8*s*. 10*d*.

(20) *W. X. Y. Z*. send in their Money to the Bank, and draw upon it in the following Manner, *viz*. June 4, 1748. *Z*. sent in 70 *l*. 8*s*. *Y*. had 116 *l*. 14*s*. 10*d*. remaining on Balance, and the 14th sent in 120 *l*. more. *W*. paid in 47 *l*. 18*s*. 2*d*. in Cash, and delivered a Bank Note for 200 *l*. *X*. paid in a Bill of Exchange, on a good Man, for 33 *l*. 14*s*. 9*d*. and in Cash made it up 100 *l*. *Y*. on the 16th drew for 43 *l*. 12*s*. 6*d*. and on the 20th *Z*. for eleven Guineas. *W*. on the 24th added 14 *l*. 12*s*. 10*d*. and *X*. withdrew 47 *l*. 10*s*. 8*d*. *Y*. on the 28th paid in 18 *l*. 5*s*. and two Days after drew for 88 *l*. 13*s*. 4*d*. *W*. sent for sixty-three Guineas on the 30th, and in five Days after for 15 *l*. 10*s*. 9*d*. more. *Z*. on the 7th of July, demanded 12 *l*. 8*s*. 3*d*. and *X*. 7 *l*. 3*s*. 1*d*. *Z*. on the 15th remitted them 31 *l*. 12*s*. 4*d*. and Assignment, they received for him at the same time double that Sum. *Y*. required 81 *l*. 19*s*. 8*d*. on the 12th, and *W*. 10 *l*. 10*s*.

Y. Three

Y. three Days after that sent in 42 *l.* and *W.* 52 *l.* On the 19th *X.* sent for 38 *l.* 18 *s.* 10 *d.* and the 24th paid in 19 *l.* 19 *s.* The Question is, how stood these Gentlemens Cash severally, and what Money can they jointly raise?

Answer, W. 222 *l.* 7 *s.* 3 *d.* *X.* 33 *l.* 6 *s.* 5 *d.* *Y.* 82 *l.* 14 *s.* 4 *d.* *Z.* 141 *l.* 5 *s.* 9 *d.*

(21) A Merchant at his Out-setting in Trade owed 280 *l.* He had in Cash, Commodities, the Stocks, and good Debts, 11505 *l.* 10 *s.* He cleared the first Year by Commerce 393 *l.* 13 *s.* 1 *d.* What at the Year's end was his neat Balance?

Answer, 11619 *l.* 3 *s.* 1 *d.*

(22) Miss Kitty told her Sister Charlotte, whose Father had before left them Twelve thousand twelve hundred Pounds apiece, that their Grandmother by Will had raised her Fortune to fifteen thousand Pounds, and had made her own twenty thousand: Pray what did the old Lady leave between them? *Answer,* 8600 *l.*

(23) A Merchant taking an Inventory of his Capital, finds in his Vaults 28 Pieces of Brandy, which cost him 874 *l.* 10 *s.* 6 *d.* Bourdeaux Claret 40 Tuns, which stood him in 754 *l.* 4 *s.* 22 Lasts, 4 Bushels of Corn in his Granary, worth 675 *l.* 17 *s.* 3 *d.* with 2 Lasts of Canary Seed, worth 113 *l.* In his Warehouse were 10 Casks of Indigo, worth 632 *l.* 12 *s.* A Parcel of Saffron, worth 253 *l.* 5 *s.* *W. P.* of Stafford, owed him 384 *l.* 10 *s.* In the Hands of *F. G.* at Lynn, he had Wines to the Amount of 1011 *l.* 10 *s.* Pepper, in the keeping of *S. Q.* of the Custom-house, Value 1552 *l.* 16 *s.* 8 *d.* besides which *R. O.* owes him on Bond, 300 *l.* and *T. M.* on Note, 260 *l.* 14 *s.* He has in India Bonds to the Value of 459 *l.* and the Interest of those Securities made 25 *l.* 14 *s.* 6 *d.* He had Bank-Stock to the Value of 2134 *l.* 4 *s.* 6 *d.* There lay in his Banker's Hands 1892 *l.* 17 *s.* 6 *d.* He was at this Time indebted to *D. E.* 713 *l.* 13 *s.* To *M. F.* 352 *l.* 10 *s.* 8 *d.* To *L. P.* the Foot of his Account, one hundred and seventy two Guineas. To *J. B.* on Balance 57 *l.* 12 *s.* 10 *d.* To an Insurance, 190 *l.* The present State of this Person's Fortune is required?

Answer, 9830 *l.* 7 *s.* 5 *d.*

The

The SUPERSCRIPTIONS and Terms of ADDRESS continued.

To the Ambassadry.

TO His Excellency Sir *A. B.* Bart. His Britannic Majesty's Envoy Extraordinary, and Plenipotentiary to the Ottoman Porte. *Your Excellency.*

To His Excellency *C. D.* Esq; Ambassador to His most Christian Majesty. *Your Excellency.*

To His Excellency the Baron de *E.* His Prussian Majesty's Resident at the Court of Great Britain. *Your Excellency.*

To Seignior *F. G.* Secretary from the Republick of Venice, at London. *Sir.*

To Seignior *H. J.* Secretary from the Great Duke of Tuscany, at London.

To *K. L.* Esq; His Britannic Majesty's Consul at Smyrna.

To the Judges and Lawyers.

TO the Right Honourable *M.* Baron of *N.* Lord High Chancellor of Great Britain. *My Lord, Your Lordship.*

P. C. To the Right Honourable Sir *O. P.* Knight, Master of the Rolls. *Sir, Your Honour.*

P. C. To the Right Honourable Sir *R. S.* Bart. Lord Chief Justice of the King's-Bench. Ditto, of the Common Pleas. *My Lord, Your Lordship.*

To the Honourable Sir *W. W.* Knight, Lord Chief Baron of the Exchequer.

To the Honourable *G. S.* Esq; one of the Justices of the Court of Common-Pleas. Or, to Judge *S.* *Sir,* or *May it please you, Sir.*

To Sir *S. M.* His Majesty's Attorney General. Ditto, Solicitor. Ditto, Advocate-General. *Sir.*

To *Y. Z.* Esq; Serjeant——Barrister, or Counsellor at Law. *Sir.*

To Mr *Edward Bustle*, Attorney at Law. *Sir.*

*** N. B. *Upon the Circuits, and when they sit singly, every one of the Judges are addressed to and treated with the same Respect and Ceremony as the Chief Justices.*

To

To the Lieutenancy and Magiſtracy.

TO the Right Honourable *S.* Earl of *B.* Lord Lieutenant and Cuſtos Rotulorum of the County of *H.*

To *P. E.* Eſq; High Sheriff for the County of *C. Mr High Sheriff; Sir.*

To the Right Honourable Sir *A. B.* Knight, Lord Mayor of the City of London. *My Lord, Your Lordſhip.*

To the Right Worſhipful *C. D.* Eſq; Alderman of Tower Ward, London.

To the Right Worſhipful Sir *E. F.* Recorder of the City of London.

To the Worſhipful *G. H.* Eſq; Mayor of *C. Mr Mayor, Sir; Your Worſhip.*

To the Worſhipful *J. K.* Eſq; one of his Majeſty's Juſtices of the Peace for the County of *S. Your Worſhip.*

To *L. M.* Eſq; Deputy Steward of the City and Liberty of *W. Mr Deputy; Sir.*

To the Governors under the Crown.

TO His Excellency *J.* Lord *C.* Lord Lieutenant of the Kingdom of Ireland. *My Lord Lieutenant; Your Excellency.*

To their Excellencies the Lords Juſtices of the Kingdom of Ireland. *Your Excellencies.*

To the Right Honourable *J.* Earl of *L.* Governor of Dover Caſtle, and Lord-Warden of the Cinque-Ports. *My Lord, Your Lordſhip.*

To the Right Honourable *C.* Lord Viſcount *D.* Conſtable of the Tower.

To His Excellency *J. H.* Eſq; Captain General and Governor in Chief of the Leeward Caribbee Iſlands, America. *Governor; Your Excellency.*

To the Honourable *F. N.* Eſq; Lieutenant-Governor of South Carolina.

To the Honourable *J. G.* Deputy-Governor of Portsmouth.

To the Honourable *G. P.* Eſq; Governor of Fort St George, Madras, in Eaſt-India.

To

To the Worshipful the President and Governors of Christ's Hospital, London.

> *The Second Governors of Colonies, appointed by the King, are stiled* Lieutenant-Governors: *Those appointed by Proprietors, as the* East-India Company, *&c. are called* Deputy-Governors.

To Incorporate Bodies.

TO the Honourable the Court of Directors of the United Company of Merchants of England, trading to the East-Indies.

To the Honourable the Sub-Governor, Deputy-Governor, and Directors of the South-Sea Company.

To the Honourable the Governor, Deputy-Governor, and Directors of the Bank of England.

To the Master and Wardens of the Worshipful Company of Drapers.

To the Gentry.

TO the Honourable Sir *C. W.* Bart. at *B.* near *L.*
To the Honourable Sir *W. S.* Knight, at *G.* in Suffolk.

To *R. Y.* Esq; at *M.* in Cheshire: Or to Mr *Y.* &c.

> ** *The Wives of Knights and Baronets, are called* Lady *W.* or Lady *S.* *But the Wives of Esquires and other Gentlewomen, only* Mistress, *&c.*

To Men of Trade and Professions.

TO Mr *G. F.* Merchant in Austin-Friars, London.

To Dr *R. M.* in Bloomsbury-Square, London.

To Mr *D. S.* Surgeon, in Covent-Garden, London.

To Mr *X. Y.* Pewterer, in Friday-Street, London.

To Mr *J. D.* Writing-Master, at Rotherhith, near London.

> ** *It will be proper to mention the Designations of the Abodes of less eminent Traders, as well as their Professions.*

To

To the Honourable the Court of Directors of the United Company of Merchants of England, trading to the East-Indies,

The Humble Petition of HAMPDEN HARDY,

SHEWETH,

THat your Petitioner, having been bred to Writing and Merchants-Accompts, humbly presumes himself qualified to serve your Honours in the East-Indies.

Your Petitioner therefore humbly prays, Your Honours will please to entertain him as a Writer for one of your Factories in India; wherein he will demean himself with the utmost Diligence and Faithfulness, and give such Security as your Honours shall require.

And your Petitioner shall ever pray, &c,

RECREATION IV.

(24) A Chaise, Horse, and Harness, were together valued at 50 *l.* the Horse in Harness was worth 38 *l.* 16 *s.* 6 *d,* the Chaise and Harness were estimated at 13 *l,* 13 *s.* Their several Valuations are required?

Answer, Harness 2 *l.* 9 *s.* 6 *d.*

(25) Supposing that for a Quarter's Rent I paid in Money 7 *l.* 7 *s.* 6 *d.* and was allowed for a small Repair 18 *s.* 9 *d.* and for the King's Tax 8 *s.* 9 *d.* What did my Tenement go at a Year?

Answer, 35 *l.*

(26) At Leicester and several other Places they weigh their Coals by a Machine, in the Nature of a Steelyard, Waggon and all; three of these Draughts together amount to *Cwt.* 137. 2 *qrs.* 10 *lb.* and the Tare of the Waggon was *Cwt.* 13¼; How many Coals had the Customer to pay for?

Answer, Cwt. 97. 3 *qr* 10 *lb.*

D 3   Seth

(27) Seth was born when Adam was 130 Years of Age, and 800 Years before our said Grandfire's Death: Seth at the Age of 105 Years, had Enos: He, at 90, was Father to Cainan, who at 70 had Mahalaleel. This Man at 65 begat Jared, who, having lived 162 Years, was Father to Enoch: This Patriarch at 65 Years of Age had Methuselah: And by the Time he was 187 Years of Age, his Son Lamech came into the World, who at 182 Years old was Father to Noah; and when Noah was 600 Years old, the Flood swept away the Bulk of Mankind. In what Year of the World did this happen, and how long after the Death of Adam?

Answer, 726 Years after Adam's Decease.

(28) From the Creation to the Flood was 1656 Years; thence to the Building of Solomon's Temple, 1336 Years; thence to Mahomet, who lived 622 Years after Christ, 1630 Years: In what Year of the World was Christ then born?

Answer, Anno 4000.

(29) When the Air presses with its full Weight, in very fair Weather, it may be demonstrated, that there press upon a human Body about 33905 Pounds of that fluid Matter; and in very foul Weather, when the Air is most light, but 30624 Pounds. What Difference of Weight lies on such a Body, in the two greatest Alterations of the Weather?

Answer, 3281 Pounds Avoirdupoiz.

(30) If the mean Distances between the Earth and Sun be 81 Millions of Miles, and between the Earth and Moon 240 Thousands: How far are these two Luminaries asunder in an Eclipse of the Sun, when the Moon is lineally between the Earth and Sun? and in another of the Moon, when the Earth is in a Line between Her and Him?

Answer, Of the Sun 80760000 Miles; the Moon 81240000.

(31) Hipparchus and Archimedes of Syracuse, about 200 Years before Christ; Possidonius 50 Years before the said grand Period, and Ptolomy 140 Years after it, all advanced the Science of Astronomy. How long did each of these Persons flourish before the Year of Christ 1750?

Answer, Possidonius 1800. Ptolomy 1610 Years.

(32) What Difference is there between the Ages of *A.* born in the Year 1693, and *B.* that will be born 13 Years hence; The Question being put Anno 1750?

Answer, 70 Years.

Various

Various Forms of ACQUITTANCES, *when an Apprentice or Servant receives Money for the Use of his Master or Employer,* &c.

REceived May 13, 1764. of Mr Adam Brown, Nine Pounds twelve Shillings, for my Master Daniel Cole, on Accompt,

9 l. 12 s.   ⅌ *Timothy Telmoney.*

Received the 24th of June, 1764. of Clement Dandridge, Forty-five Pounds eight Shillings six Pence, in full for my Master Edward Ford,

45 l. 8 s. 6 d.   ⅌ *George Harmless.*

Received the   of   of Mr Philip Quiney and Company One hundred Pounds, for Mr Jonathan Gosling and Partners,

100 l.   ⅌ *Richard Smithers.*

Received the   of   of the Honourable East-India Company, by the Hands of Richard Blount Esq; Two thousand Pounds ten Shillings, for Mr Durant and Company,

2000 l. 10 s.   ⅌ *Titus Valuable.*

Received the   of the Governor and Company of the Bank of England, by the Hands of Mr Abraham Gualtier, Seven thousand forty-one Pounds eleven Shillings, for Mr Zeuxy and Company,

7041 l. 11 s.   ⅌ *Young Zanthy.*

Received   of the Worshipful Company of Mercers, by the Hands of Mr George Clerk, Ninety-two Pounds, for my Father Edward Yates.

92 l.   ⅌ *James Yates.*

*** *Date each Transaction in Business according to the precise Time when it happened.*

Received

Received   of the Right Honourable Sir John Eyles, Baronet and Lord Mayor of London, Thirty Pounds, for the Use of the Artillery Company, London.

30 *l.*   ℔ *John Blackwell*, Clerk.

Received Nov. 17. 1764. of Mr Edward Froward, Ten Pounds for a Quarter's Rent due at Michaelmas last, for my Master Geo. Trustnone.

10 *l.*   ℔ *Clement Dealwell.*

Received the   of   of Mr Lawrence Shifter, Twenty-nine Pounds six Shillings, in Part of a Bill of ninety Pounds, due the third Instant to Mr Simon Dealwell.

————————

29 *l.* 6 *s.*   ℔ *Phineas Quiet.*

Received of Mr Andrew Allpaid, by Order and on Account of Mr Humphry Hoardmoney, One hundred Pounds for Mr John Graham and Company, this 14th of March, 1764.

————————

100 *l.*   ℔ *Thomas Trusty.*

Received the   of   of Mr Benjamin Banker, by Order of Mr Nicolas Factor, the Sum of One hundred Pounds six Shillings eight Pence, on Accouut of Mr Thomas Trustall of Colchester. I say, Received for my Master Edm. Goodman and Partner,

————————

100 *l.* 6 *s.* 8 *d.*   ℔ *Jonas Diligent.*

Received this 22d of October, 1764. of *P. D. Esq;* the Sum of Ninety-four Pounds in Cash, and an Assignment on Messrs *R. S.* and *S. T.* for One hundred Pounds more, which when discharged, will be in full for Messrs *T. B.* and *S. N.*

℔ Cash,   94 *l.*
℔ Assign. 100 *l.*
————————
                                        ℔ *Jonas Competent.*

In all——194 *l.*

RECRE

RECREATION V.

(33) A Gentleman at his Death left his eldeſt Son once and a half what he allotted his Daughter, and to the young Lady 1383 *l.* leſs than her Mother; to whom he bequeathed four Times what he left towards the Endowment of Hertford College, Oxon, *viz.* 1640 Guineas. I require what he intended for his younger Son, who claimed under the Will, half as much as his Mother and Siſter? How much leſs than 30,000 *l.* did the Teſtator die worth his Debts and Funeral Expences being 988 *l.* 10 *s.*?

Anſwer, 442 *l.* 10 *s.*

(34) A Grant was made by the Crown, Anno 1239, which was forfeited 137 Years before the Revolution in 1688: How long did the ſame ſubſiſt?

Anſwer, 312 Years.

(35) Moſes was born Anno Mundi 2433; Homer 832 Years after him; Julius Ceſar lived 40 Years before our Saviour, and Alexander 312 Years before Ceſar: Now as Chriſt was incarnate 4000 Years after the Creation, the Sum of the Intervals between Homer and the three great Perſonages laſt mentioned is required?

Anſwer, 1813 Years.

(36) The Semidiameter of the Earth's Orbit, or annual Path round the Sun, in the Center of the Syſtem, is about 81,000,000 of Miles; that of Venus 59,000,000; when they are both on the ſame Side the Sun they are *in Perigæo;* when on different Sides, *in Apogæo:* What is the Difference of their Diſtances in both thoſe Circumſtances?

Anſwer, 118 Millions of Miles.

(37) A young Fellow owed his Guardian 74 *l.* 18 *s.* 2 *d.* on Balance. He paid off 41 *l.* 14 *s.* 8 *d.* and then declared his Siſter owed the Gentleman half as much again as himſelf: On hearing this, ſhe pays off in a Pet 13 *l.* 12 *s.* 10 *d.* and gives out that her Uncle William was not then leſs in Arrear than her Brother and ſhe together. The Uncle hereupon pays in 24 *l.* 7 *s.* 3 *d.* and then the Uncle's Brother, who, by the By, was not the Uncle of thoſe Children, for 150 *l.* undertakes to ſet them all clear, and has 35 *l.* 15 *s.* 5 *d.* he ſays, to ſpare: Can that be true?

Anſwer, The Father was no doubt an Accomptant.

(38) *A.*

(38) *A.* was born when *B.* was 18 Years of Age: How old shall *A.* be when *B.* is 41? And what will be the Age of *B.* when *A.* is 72?

Answer, A. 23. B. 90.

(39) In a Company *S.* had 3*l.* 17*s.* 2*d.* more than *T.* who had six Guineas less than *R.* who had within 16*s.* 8*d.* as much as *W.* who was known to have 100 Guineas wanting ten Marks of 13*s.* 4*d.* each. Pray what Money had they among them?

Answer, 382*l.* 1*s.* 10*d.*

(40) The Building of Solomon's Temple was in the Year of the World 3000; Troy was by Computation, built 443 Years before the Temple, and 260 before London: Now Carthage was built 113 Years before Rome, founded 744 Years before Christ, born Anno Mundi 4000; is London or Carthage the ancienter City, and how much?

Answer, London by 326 Years.

(41) You were born 34 Years after me; how old shall I be when you are 17? and how old will you be when I am 70 Years of Age?

Answer, I 51. You 36.

(42) *A.* is 17, *B.* 7. what will their Ages severally be when the Elder is double the Age of the Younger?

Answer, A. 20. B. 10.

(43) Five notable Discoveries were made in 215 Years Time, *viz.* 1. The Invention of the Compass. 2. Gun-Powder. 3. Printing. 4. The Discovery of America. 5. Truth, in the Reformation. The last was brought about Anno 1517: The third 77 Years before: The second 42 Years after the first; and the fourth 148 Years after the second. The Question is, In what Year of Christ did each of these happen to be found?

Answer, Compass, Anno 1302. Fire-Arms, 1344. Printing, 1440. America, 1492.

(44) Three and thirty Years before the Restoration in 1660, the Crown granted Demesnes to certain Uses for 210 Years then to come. The Proprietor in 1715, procured a reversionary Grant for 99 Years, to commence after the Expiration of the first: In what Year of Christ will the second Term end?

Answer, Anno 1936.

Trajan's

(45) Trajan's Bridge over the Danube is said to have had 20 Piers to support the Arches, every Pier being 60 Feet thick, and some of them were 150 Feet above the Bed of the River; they were also 170 Feet asunder: Pray what was the Width of the River in that Place; and how much did it exceed the Length of Westminster Bridge, which is about 1200 Feet from Shore to Shore, and is supported by 11 Piers, making the Number of Arches 12?

Answer, The Danube in that Place was 3570 Feet broader than the Thames at Westminster.

(46) A public Edifice was finished toward the Close of the 10th of King John, who began his Reign 134 Years after the Conquest in 1066; and it stood till within 70 Years of the Peace of Utrecht, in 1713: Of what Duration was it?

Answer, 433 Years.

(47) The Powder-plot was discovered 88 Years after the Reformation in 1517: The Murder of King Charles the First was committed 43 Years after that Discovery: The Accession of the Brunswic Family to the Crown was in 1714; just 54 Years after the Return of King Charles the Second, who had lived in Exile ever since the Death of his Father Charles the First: How long was that?

Answer, 12 Years.

(48) *A.* is 13 Years younger than *B.* and 17 Years older than *C.* who in the Year 1711, was known to be 24 Years of Age: How old was each of these Persons in 1733?

Answer, *A.* 63. *B.* 76. *C.* 46.

(49) Arphaxad was born to Shem two Years after the Deluge, and 500 before his Father's Death; but at 35 Years of Age he had Selah, who at 30 was Father to Eber; who at 34 had Peleg; and he lived 430 Years after that: The Question is, whether Shem or Eber died the first? and at ninescore and fourteen Years after the Death of the longer Liver, what Interval might be wanting to complete the Term of 1000 Years after the Flood?

Answer, Eber was the Survivor by 29 Years. Interval 275 Years.

(50) *B.* was born 14 Years after *C.* who came into the World 19 Years before *A.* who was 23 Years of Age eight Years ago: What then is the Age of *D.* who is within 22 Years of being as old as those three together?

Answer, 95 Years.

E   Various

Various Forms of ACQUITTANCES upon Receipt of Money by MASTERS, AGENTS, and MEN of BUSINESS.

REceived the 29th of July, 1764. of Messrs Samuel and Simon Surepay, Five hundred and forty Pounds on Accompt,

540 *l.*   ⅌ *William Percival.*

Received the   of   of the Right Honourable Arthur Onslow Esq; the Sum of Two hundred and fifty Pounds, in full of all Demands for Self and Company,

250 *l.*   ⅌ *Josiah Milner.*

Received the   of   of Mr Clerk Powel, the Sum of Ten Pounds ten Shillings in Part of my growing Salary and Subsistance,

10 *l.* 10 *s.*   ⅌ *Hamilton Horseman.*

Received the   of   of Mr Charles Torriano, Twenty five Pounds, in full for the Difference of two thousand five hundred Pounds Bank Stock,

25 *l.*   ⅌ *Jacob Farmer.*

Received the 19th of June, 1764. of Mr James Shaw, Thirty Pounds, in full for six Months Interest of twelve hundred Pounds, due at Lady-Day last,

30 *l.*   ⅌ *Gabriel Growth.*

Received the   of   by the Order and for the Use of Mr Henry Marr, of Mr Stephen Stone, Eight Pounds ten Shillings, and allowed for Taxes and Repairs One Pound ten, together the Sum of Ten Pounds, in full for a Quarter's Rent due at Michaelmas last,

10 *l.*   ⅌ *Randal Rentgather.*

Received

Received of Mr Lewis Landlove, Twenty five Pounds, in full for half a Year's Rent due at Christmas last; out of which, deducted for Taxes Five Pounds, and for Repairs Two Pounds. I say, Received for and by Order of Robert Richer Esq;

25 *l.*   ℔ *Christopher Countwell.*

Received by the Hands of Mr Peter Prentice, by Order of Chamberlain Trustee Esq; Thirteen Pounds seven Shillings in Money, allowed for Taxes Thirty three Shillings, in all Fifteen Pounds, being for half a Year's Rent due at Lady-Day last, from Capt. Richard Roundears.

15 *l.*   ℔ *Martin Moore.*

Received of the Executors of Charles late Earl of Glendore, by the Hands of Mr Isaac Cavendish, the Sum of Seventy five Pounds, in full for my half Year's Annuity due at Lady-Day last,

75 *l.*   ℔ *Ann Bridgman.*

Received May 23, 1764. of the Right Reverend Edward Lord Bishop of Durham, by the Hands of Mr Stephen Rainer, the Sum of Ninety Pounds, and is in full for three Quarterly Payments of my Annuity due at Michaelmas, Christmas, and Lady-Day last,

90 *l.*   ℔ *Charlot Crusty.*

Received of Mr *A. B.* the Sum of Ten Pounds in Money, and a Note of his Hand, bearing equal Date with this, for Fourteen Pounds more; which Note, when paid, will be in full of all Demands to this   Day of
               ℔ *Charles Cautious.*

Received of Robert Ayliff Esq; and Owners of the Prince Frederic, the Sum of Seventy three Pounds ten Shillings, in full for Cordage, Tackle and Trimming furnished the said Ship,

73 *l.* 10 *s.*   ℔ *Samuel Cluely.*

PROMISSORY NOTES by BANKERS Apprentices and Servants.

London, Jan. 27. 1764.

I Promise to pay the Honourable Charles Villiers Efq; or Bearer, on Demand, Fifty Pounds,

For Sir Richard Daventry and Partners,

Charles Streeke.

50 *l.*

London,

I promise to pay to the Honourable Directors of the English Company Trading to East - India, or Bearer, on Demand, Four hundred Pounds,

For my Father James Smith,

Thomas Smith.

400 *l.*

London,

I promise to pay the Royal African Company, or Bearer, on Demand, Three thousand six hundred and forty four Pounds thirteen Shillings and six Pence,

For my Masters Jennings and Willbraham.

Adam Tellmoney.

3644 *l.* 13 *s.* 6 *d.*

MASTERS PROMISSORY NOTES.

I Promise to pay Mr Edward Jones, or Bearer, on Demand, Seven hundred Pounds. April 14. 1764.

Simon Sogood.

700 *l.*

I promise to pay to the Governor and Company of the Bank of England, Nine thousand Pounds,

For Self and Partners. July 6th. 1764.

Francis Fairfax.

9000 *l.*

London, 1764.

I promise to pay Joseph Pennington Efq; Cashier of His Majesty's Revenue of Excise, or Order, forty Days after Date, Four hundred and thirty Pounds, Value received,

♃ *Conrade Collector.*

430 *l.*

I pro-

I promise to pay Paul Portsoken Esq; or Order, on Demand, Three hundred ninety-four Pounds two Shillings and six Pence, Value received this   of   1764.

_____

394 *l.* 2 *s.* 6 *d.*   ☞ *Timothy Theobalds.*

I promise to pay Sir Joseph Jebb, or Order, the Sum of Thirty Pounds in Manner following; Ten Pounds, Part thereof, two Months after Date; Ten Pounds more the 17th of March next; and the remaining Ten Pounds, the 24th of June next following; Value received: Witness my Hand at London, the   of   1764.

_____

30 *l.*   *Daniel Douglas.*

Bromley, May 10. 1764. 100 *l.*
Borrowed and received of Mr Aaron Goodfriend, the Sum of One hundred Pounds Sterling, which I promise to pay the said Aaron Goodfriend, or Order, upon Demand: Witness my Hand,

Witness { *John Brown,*
          Geo. Radford.   *Nicolas Needham.*

I promise to pay to Capt. Alexis Edgecomb, or Order, on Demand, Eighteen Pounds eight Shillings and nine Pence, furnished by my Order to Lieutenant Charles Cornwall, as appears by his Receipts delivered this 12 December, 1764. to

_____

18 *l.* 8 *s.* 9 *d.*   *Hugh Harrold.*

London, July 5. 1764.
I promise to furnish Mr Gregory Fitz-Harding with Bills of Exchange to the Value of Five thousand Pounds Sterling, at current Exchange, payable to himself or Order in Messina the next ensuing Fair: Value of Sir John Trevor received,

_____

5000 *l.*   ☞ *Edward Essington.*

I promise to pay to Gregory Goosequill Esq; or Order, the Sum of Fifty Pounds, on Demand, after Receipt of a Bill of Exchange drawn the 10th current by Humphry Herringbone on Henry Dashet of Southampton, Malster, for the like Sum payable to William Pierce Esq; or Order, which said Gregory Goosequill has indorsed to me this 28th of January, 1764.

                              Alfred Dunning.

_____

50 *l.*   I pro-

I promise to return her Grace the Dutchess Dowager of Tredegar, or Order, on Demand, one Casket of Jewels, sealed, One hundred Ounces of Gold Plate, Three hundred and fifty of ditto Silver, Seventy Caracts of Oriental Pearl, and a Thousand Pound Bank-Note, Received of her said Grace,

For Self and Company, Nov. 19. 1764.

<p> *Trajan Trusty.*

Received of *W. L.* Esq; nine Deeds, all relating to his Estate in the Parish of Dovebridge, near Utoxeter; which I promise to return the said *W. L.* or Order, undamaged, on Demand. Witness my Hand, this ⟶ Day of

Roger Norton.

Observe, Promissory Notes for a valuable Consideration should always mention the *Value received*, if the Thing itself be not specified; this gives them Validity in a Court of Judicature.

A Promissory Note, mentioning *Order*, is indorsible from one Person to another, which is done by the present Possessor's writing his Name on the Back of it, and delivering it up to the Party to whom he intends to assign over his Property therein.

It is unnecessary to have a Promissory Note payable to *Bearer* indorsed, if you are satisfied the Note is good.

The delivering up a Promissory Note to the Person who signed it, is a sufficient Voucher of its being paid; nor is there any need of writing a Receipt thereon.

Promissory Notes, and Book-Debts, if not legally demanded in the Space of six Years, cannot be recovered by Law.

If you keep a Promissory Note *on Demand* in your own Hands above three Days, and the Person it is upon should fail, the Loss will be your own; but if he fail within the three Days, it will light, in Equity, on the Person that paid it you.

R E C R E-

RECREATION VI.

(51) JACOB, by Contract, was to serve Laban for his two Daughters 14 Years; and when he had accomplished 11 Years, 11 Months, 11 Weeks, 11 Days, 11 Hours, and 11 Minutes, Pray how long had he yet to serve?

Answ. 1 Year, 9 Mon. 3 Wks, 2 Dys, 12 Ho. 49 Min.

(52) Of the noble Family of Cornaro, the Grandsire's Age was 134 Years, and he was 93 Years older than the Son, at the Time when the Son and Father's Age together made 112 Years: Distinguish their Ages?

Answer, Son 41, &c.

(53) *B.* was 14 Years old when *C.* was 25: How old shall *C.* be when *B.* comes to be 25?

Answer, 36.

(54) *K.* is 19 Years older than *L.* who was 27 Years of Age in the South-Sea Year, 1720: How old is *M.* in 1740, who, in the Year 1738, was within 24 Years of being as old as both of them together?

Answer, 87.

(55) England was conquered by William I. Oct. 4. 1066; his Son William II. came to the Crown Sept. 9. 1087, and left it Aug. 2. 1100; William III. received it Feb. 3. 1689, and died March 8. 1701: How many Days did each of these Princes govern, respect being had to the intercalary Days (added to February every Leap-Year) as they rose in the Course of Time?

Answer, Will. I. 7645 Days. *Will.* II. 4710 Days. *Will.* III. 4416 Days.

Note, *Every fourth Year is* Leap-Year *or* Bissextile: *To find which are such, divide the Year of our Lord by 4. and when nothing remains, those are the Leap-Years; and to such you add one Day more than 365.*

(56) *B.* Born 161 Years ago, died when *C.* was 47 Years of Age, who it seems came into the World 180 Years since, and out-lived *B.* 43 Years: The Sum of the Ages of these two Persons is required?

Answer, 118 Years.

If

(57) If Sampson was born 17 Years after Timothy, and Timothy 26 Years before Jacob, who 28 Years hence will be just 50 : In what Year of Christ were they severally born; the Question being proposed Anno 1750?

Answer, Jacob 1728. *Sampson* 1719. *Timothy* 1702.

(58) Richard the First succeeded his Father Henry II. July 7. 1189; John his Brother succeeded him April 6, 1199. Richard the Second succeeded Edward the Third on the 21st of June 1377; and was deposed by Henry IV. on the 30th of September, 1399. The third Richard caused his Nephew Edward V. and his Brother, to be murdered on the 18th of June, 1483; and was slain himself on the 22d of August, 1485. How many Days was the Realm governed by the three Richards, respect being still had to the intercalary Days as they happened?

Answer, 12493 Days.

(59) *B.* born Anno 1108, lived 48 Years before *C.* who was 113 Years senior to *D.* and *X.* was 114 Years before *Y.* who was 74 Years after *Z.* born Anno 1527: In what Years of Christ were these Men severally born?

Answer, C. 1156. *D.* 1269. *X.* 1487. *Y.* 1601.

(60) *A.* Born 445 Years before the Year 1733, died Anno 1362; *B.* born 37 Years ago, will die 18 Years hence; *C.* born 256 Years ago, died 197 Years since; *D.* born Anno 1578, lived till within 75 Years of the said 1733: The Length of these Peoples Lives is severally required?

Answer, A. 74. *B.* 55. *C.* 59. *D.* 80 Years.

(61) *A.* Born Anno Christi 318, lived 207 Years before *B.* who lived 104 Years after *C.* who was Successor to *D.* 84 Years; *E.* was also 112 Years after *D.* but Predecessor to *F.* by 47 Years: In what Year of Christ did each of these Gentlemen flourish?

Answer, B. 525. *C.* 421. *D.* 337. *E.* 449. *F.* 496.

(62) If I am 42 Years older than you now, what will be the Difference of our Ages 14 Years after my Decease, in case you shall then survive?   *Answer,* 28 Years.

(63) A Snail in getting up a Maypole, only 20 Feet high, was observed to climb 8 Feet every Day, but every Night he came down again 4 Feet: In what Time by this Method did he reach the Top of the Pole?   *Answer,* in 4 Days.

BILLS

BILLS OF PARCELS.

The Honourable the Lady Abley,
Bought of Lemuel Linen-Draper, and Partner.

1764.

	s.	d.			l.	s.	d.
14 Mar. 16 Ells of Dowlas ———	at 1	4	⅌ Ell				
22½ Ells of Holland ———	at 3	4					
1 Ps. of Cambrick							
A Ps. of Muslin					3 .. 4 .. 6		
18½ Ells of Diaper ———	at 1	10			2 .. 17 .. 3		
19½ Ells of Damask ———	at 4	3					

l. 22 . 17 . 8½

Madam Strawberry,
Bought of Manywords, Milliner.

1754.

	s.	d.		l.	s.	d.
3 Apr. 15½ Yards of flower'd Ribband ——	at 2	3				
3 Pair of Roman Gloves ——	at 9	4	⅌ Pair			
6 Dozen of Irish Lamb, ditto ——	at 1	3				
7 Sarcenet Hoods, white ——	at 4	6 each				
15 Fans, French Paper Mount ——	at 3	3				
A Ps. of Mechlin Lace, 16 Yards ——	at 13	10	⅌ Yard			

l. 22 . 14 . 5½

The Right Honourable the Countess of Night and Day,

Bought of Mary Tombs.

		l.	s.	d.			l.	s.	d.
1764.									
3 Feb.	36 China Plates ————	at	0 .	3 .	8 each ———				
	18 Dishes, ditto ————	at	0 .	10 .	6				
	2½ Pair of Jars, and a Pair of Beekers, allowed ———						13 .	10 .	6
	A Tea-Table Set compleat ———						3 .	18 .	4
	Indian Sprig'd Muslin, 1 Ps. qt. 14¾ Yards	at	0 .	9 .	0				
	3 Fine Chints, 10 Ps. ———	at	3 —	3 .	6 ⅌ Ps. ———				

l. 71 . 14 . 2½

Mrs. Frances Pindiff,

Bought of Isaac Hosier, 10 Apr. 1764.

		s.	d.		l.
15 Pair of Womens Worsted, mixt ———	at	5 .	7 ⅌ Pair ———		
23 Pair of Mens Silk ———	at	17 .	4		
22 Pair of Mens Yarn ———	at	3 .	2		
18 Pair of Norwich Hose ———	at	4 .	9		
38 Pair of Thread ———	at	3 .	4		
13 Pair of Women Gloves, Silk ———	at	4 .	8		

l. 41 . 4 . 11

Mrs Sarah Johnson,

Mrs Sarah Johnson,

Bought of Theophilus Fruiterer.

		l.	s.	d.	
1764.					
3 Apr.	7 Dozen of Malaga Lemons		at 2	3	⅌ Dozen
	8½ Hundred of Lisbon, ditto		at 7	2	⅌ Hund.
	9 Ropes of Spanish Onions		at 1	6	each
	1 Bushel of ditto Chesnuts				
	43 Dozen of best China and Seville Oranges		at 1	2	⅌ Dozen
	12 Pomegranates		at 0	4½	

$0 . 7 . 10$

$l. 7 . 12 . 8$

Mr Claude Cockson,

Bought of Robert Fishmonger and Partner.

		l.	s.	d.	
1764.					
27 Mar.	3 Hundred of Haberdine		at 7	10	6 each
	1½ Hundred of Ling		at 8	12	6
	4½ Hundred of Stockfish		at 4	10	6
	4 Kegs of Sturgeon		at 0	16	10½
	6½ Barrels of Herrings		at 3	10	2
	95 Dried Salmon		at 0	1	2

$l. 87 . 11 . 11$

F 2

James Bateman Esq;   Bought of Clement Coffeeseller, Feb. 10. 1764.

		s.	d.
			8 ℔ Pound.
27 ¾	Pound of Smyrna Coffee	at 5	. 4
33	Pound of Mocha, ditto	at 5	. 0
26 ½	Pound of Imperial Tea -	at 25	. 6
10 ¼	Pound of best Bohea	at 14	. 8
13	Pound of Royal Green Tea	at 18	. 8
21	Pound of Sugar double refined	at 1	. 0½

l. 70 . 13 . 4

The Honourable Mrs Vaughan,   Bought of Simon Salter and Partner.

1764.

		s.	d.
5 June. 13 ½	Pound of Anchovies	at 1	. 4½ ℔ Pound.
30	Pound of Capers	at 0	. 10½ ℔ Pound.
12 ¾	Pound of Saltpetre	at 1	. 2½ ℔ Pound.
2 ½	Gall. of pickl'd Mushrooms	at 3	. 7 ℔ Quart.
4 ½	Gall. of Lucca Oil	at 12	. 0 ℔ Gallon.
A Westphalia Ham, wt. 20 lb.		at 0	. 11½ ℔ Pound.

l. 8 . 8 . 7

Mr Edward Shakespear.

Mr Edward Shakespear,

Bought of James Pewterer and Jonathan Brasier,

              s. d.

1764.
Oct. 20. Hard-metal Plates, 3 doz. wt. 50 lb. ——— at 1 . 4 ₩ Pound. ——— l.
8 Dishes ditto, a Monteth, and Colender, wt. 40 lb. - at 1 . 6 ———
A Copper, with a discharging Cock; wt. 66½ lb. - at 1 . 4½ ———
Iron-Work to ditto, and a Crane, wt. 97 lb ——— at 0 . 2¾ ———
A Stove Grate, with Shovel, Tongs, Poker and Fender ——— 1 . 18 . 6
A large Brass Pot and Saucepan, wt. 38 lb: ——— at 1 . 7 ———

             l. 16 . 19 . 0

Mr John Doyley,

Bought of Ferdinand Farrier, May 5, 1764.

              s. d.

Coney Skins, 1300 ——— at 13 . 6 ₩ Hund. ——— l.
Beaver, 180 l. ——— at 7 . 8 ₩ Pound. ———
A Sable Muff and Tippet, allowed — 21 . 0 . 0
Fitch Skins, 90 ——— at 0 . 3 ₩ Skin. ———
Otter Skins, 50 ——— at 3 . 0 ———
Hare Skins, 140 ——— at 9 . 6 ₩ Hund. ———

             l. 108 . 5 . 0½

Mr Edward Cordwainer,

Bought of Adam Leatherseller.

1764.

			s.	d.		
Nov. 17.	Large oiled Lamb Skins, 215	— — — at	1 .	3½	⅌ Skin.	— — — l.
	Goat Skins, 130	— — — at	0 .	11¼	—	—
	Allomed Sheep Skins, 137	— — — at	1 .	3	—	—
	Calves Skins, 19	— — — at	4 .	3	—	—
	Oil'd Buck, 15	— — — at	12 .	9	—	—
	Ruffia Hides, 82	— — — at	12 .	9	—	—

l. 94 . 8 . 4

Capt. John Elford,

Bought of Thomas Cheesemonger.

	Cwt.	qr.	lb.	l.	s.	d.	
1764.							
Dec. 21. Old Cheshire Cheeses, 12 —	5 .	2 .	24 — at	1 .	17 .	4	⅌ Hund. l.
Glocestershire Cheeses, 45 —	4 .	2 .	20 — at	1 .	12 .	6	
Firkins of Butter, 12 —	—			1 .	10 .	0	each.
Stilton Cheeses, 93 —	2 .	3 .	25 — at	2 .	16 .	10	⅌ Hund.
Flitches of Bacon, 7 —	— wt. 49 Stone. — at			0 .	3 .	4	each.
Suffolk Butter, 12 Weys —	— at			8 .	3 .	8	—

l. 150 . 18 . 9

Mr Jonathan Marriot,

Mr Jonathan Marriot,   Bought of George Grocer and Company.

	Cwt.	qr.	lb.		l.	s.	d.	@ Hund.	- l.	s.	d.
1764.											
Mar. 12. Sugar, 2 Hhds.	17	2	17	at	1	13	10		-	-	-
Raisins, 11 Barrels	12	1	19	at	1	14	5		-	-	-
Tobacco, 1 Hhd.	4	-	12	at	4	19	4		-	-	-
Rice, 1 Barrel	1	-	15	at	2	16	4		-	-	-
Pepper, 1 Bag	1	3	19	at	3	12	4		-	-	-
Brimstone	2	1	19	at	1	19	1		-	-	-
Bees-Wax, 4 Cakes	2	2	12	at	1	18	4		-	-	-

l. 91 . 9 . 9½

Mrs. Jane Somerset,   Bought of Edmund Brisk and Oswald Obliging.

		s.	d.	@ Yard.	- l.	s.	d.
1764.							
Nov. 9. 12¾ Yards of rich Brocaded Sattin	-	at 18	6		-	-	-
6 Yards of Mohair	-	at 4	2		-	-	-
25¼ Yards of Paduasoy	-	at 11	8		-	-	-
15½ Yards of flower'd Damask	-	at 8	8		-	-	-
34¼ Yards of Poplin	-	at 3	0		-	-	-
12½ Yards of Italian Mantua	-	at 7	6		-	-	-
36 Yards of double Taffaty	-	at 2	9		-	-	-

l. 48 . 8 . 9½

When the Money is paid down, either of the Partners may write thus:

Received, at the fame time of Madam Somerfet the Sum of Forty eight Pounds eight Shillings fix Pence, in full of all Demands, for Self and Partner.

₱ *Ofwald Obliging.*

Mr Charles Thorold,

Bought of Sir William Afhurft and Company, Feb. 8, 1764.

		l. s. d.		li
10½ Yards of Yorkfhire Cloth	—	at 6 · 6 ₱ Yard.	—	
7 Yards of fine Spanifh Black	—	at 16 · 3		
6¾ Yards of fine Grey Cloth	—	at 15 · 9		
16¼ Yards of Frieze	—	at 3 · 6		
4 Yards of fecond Drab	—	at 15 · 6		
5¼ Yards of fuperfine Spanifh Cloth	—	at 18 · 6		
3¼ Yards of Livery Scarlet Cloth	—	at 13 · 0		

l. 46 . 0 . 7¼

Received at the fame time the full Contents for Sir William Afhurft and Company,
₱ *Michael Medcalf.*

RECREATION VII.

(64) THE firſt Queen Mary came to the Crown July 8. 1553; ſhe reigned 5 Years, 4 Months, and 9 Days; her Siſter Elizabeth ſucceeded, and James I. came to her Throne the 14th of March 1602; and he left it to his Son Charles I. on the 27th of March 1625, who was forced from it, Jan. 30. 1648. The Queſtion is, how many Days did theſe Princes reign? and at the Death of Charles I. how long had England been under an uninterrupted Succeſſion of Proteſtant Princes (Mary I. being the laſt profeſs'd Papiſt that enjoy'd the Crown) not neglecting the intercalary Days in February, as before?

Anſwer, Eliz. 16188. James I. 8049. Charles I. 8709 Days.

(65) A Dealer bought two Lots of Snuff, that together weighed *Cwt.* 9. 100 *lb.* for 97 *l.* 17 *s.* 6 *d.* Their Difference in Point of Weight was *Cwt.* 1. 2 *qr.* 16 *lb.* and of Price 8 *l.* 13 *s.* 3 *d.* Their reſpective Weights and Values are required?

Anſwer, { Lot. 1. *Cwt.* 5 , 86 *lb.* Coſt 53 *l.* 5 *s.* 4 *d.* $\frac{1}{2}$
{ Lot. 2. *Cwt.* 4 . 14 *lb.*   44 *l.* 12 *s.* 1 *d.* $\frac{1}{2}$

(66) My Purſe and Money, quoth Dick, are worth 12 *s.* 8 *d.* but the Money is worth ſeven of the Purſe: Pray what was there in it?

Anſwer, 11 *s.* 1 *d.*

(67) By God's Bleſſing upon a Merchant's Induſtry, in ten Years Time he found himſelf poſſeſſed of 13000 *l.* It appeared from his Books, that the laſt three Years he had cleared 873 *l.* a Year; the three preceeding but 586 *l.* a Year; and before that but 364 *l.* a Year. The Queſtion is, What was the State of his Fortune at every Year's End that he continued in Trade? and conſequently, what had he to begin with?

Anſwer, 7167 *l.* original Stock.

(68) *A.* Born Anno 1441, lived till *B.* was 7 Years of Age, which was 23 Years before the Reformation in 1517. *B.* ſurvived this remarkable Æra juſt 49 Years; *C.* born 9 Years after the Death of *A.* lived but till *B.* was 36 Years of Age: The Sum of the Ages of theſe three Perſons is required?

Anſwer, Their Sum is 152 Years.

G   Sam

(69) Sam was born 28 Years before Toby who died at 12, and lived 19 Years after him. Rachel came to light when Sam was 16, and died 11 Years before him. Joshua, when Rachel was 7 Years, being himself then 14, went abroad, where he continued 9 Years, and returning, survived Rachel four Years. How old was each of these, and what is the Sum of their Ages? *Answer*, Sum 146 Years.

(70) A Grant was made Dec. 14 in the 10th of Henry I. who began his Reign Aug. 2. 1100; it was resumed November 19. in the 4th of Henry III. who came to the Crown Oct. 19. 1216; it was revived the 16th Day of July, in the 13th of Henry VII. who ascended the Throne Aug. 22. 1485; But it was a second Time revoked, and finally suppressed in the 16th of his Successor, Henry VIII. on the 10th of May. Now as this Man's Father died July 21. 1509; the Question is, How many Days was this Grant in force, and how many did it lie dormant?

Answ. 49947 Days in force; superseded 101778 Days.

(71) *A.* Born Anno 1438, died at 48 Years of Age; *B.* died Anno 1502, aged threescore and seventeen; *C.* in the Year 1577, was 22 Years of Age, and survived that Time 54 Years: *D.* Anno 1616, had lived just half his Time, and died in 1648; *E.* was 13 Years old at the Death of *D.* and 14 Years after that was Father to *F*, who was 31 when his Son *G.* was born; who at his Grandsire's Death was 7 Years of Age; the Years of Christ, wherein these Men were born, and the Years wherein the first five of them died, are severally required?

Answer;
{
Birth, *A.* 1438, *B.* 1425, *C.* 1555, *D.* 1584,
Demise, 1486. 1502. 1631. 1648.
Birth, *E.* 1635. *F.* 1662. *G.* 1693,
Demise, 1700.
}

(72) *A.* Born 17 Years after *C.* and 13 before *B.* died 42 Years before King George the Second's Inauguration in 1727, aged 47 Years; *A.* died Anno 1712, and *B.* exactly 8 Years before him: *D.* born 23 Years before *C.* died at 64; *E.* born 11 Years after *B*'s Death, will die 12 Years after the Year 1733; and *F.* born just in the Midway of the Interval, between the Births of *A.* and *D.* is not to reach the Time of *E*'s Death by 14 Years: What is the Sum of all their Ages, and which of them liv'd longest?

Answer, The Sum 398 Years. *F.* Senior by 22 Years.

A Per-

(73) A Perſon ſaid he had 20 Children, and that it happened there was a Year and a half between each of their Ages; his eldeſt was born when he was 24 Years old, and the Age of his youngeſt is now one and twenty : What was the Father's Age?   *Anſwer*, 73½ Years.

(74) A Sheepfold was robbed three Nights ſucceſſively; the firſt Night half the Sheep were ſtolen, and half a Sheep more; the ſecond Night half of the Remainder were loſt, and half a Sheep more; the laſt Night they took half what were left, and half a Sheep more, by which time they were reduced to twenty : How many were there at firſt?
    Anſwer, 167.

(75) The Silk Mill at Derby contains 26586 Wheels, and 97746 Movements, which wind off or throw 73726 Yards of Silk every time the great Water-Wheel, which gives Motion to all the reſt, goes about, which is three times in a Minute. The Queſtion is, How many Yards of Silk may be thrown by this Machine in a Day, reckoning ten Hours a Day's Work? and how many in the Compaſs of a Year, deducting for Sundays and great Holidays 63 Days, provided no Part of it ſtand ſtill?
    Anſwer, 400774536oo.

(76) What Difference is there between twice eight and twenty, and twice twenty eight: As alſo between twice five and fifty, and twice fifty five?
    Anſwer, 20. *Anſwer*, 50.

(77) What is the Difference, and what the Sum of ſix dozen Dozen, and half a dozen Dozen?
    Anſwer, Diff. 792. Sum 936.

(78) What Number taken from the Square of 54, will leave 19 times 46?   *Anſwer*, 2042.

(79) Subtract 30079 out of fourſcore and thirteen Millions, as often as it can be found, and ſay what the laſt Remainder exceeds or falls ſhort of 21180?
    Anſwer, Remainder 4631 more.

(80) What Number, added to the forty third Part of 4429, will make the Sum 240?   *Anſwer*, 137.

(81) What Number, deducted from the 26th Part of 2262, will leave the 87th Part of the ſame?
    Anſwer, 61.

BILLS on BOOK-DEBTS.

The Right Honourable the Lord Bolſover, Dr.

To Paul Purſeproud, Upholder.

1764.		l.	s.	d.
Apr. 19.	A rich Crimſon-Damaſk Bed, laced, compleat	75	—	8
May 5.	A Set of Window-Curtains, and Vallance, ditto	16	11	8
7.	A fine Carpet, Counterpane, and an Otter-down Quilt	12	10	6
June 6.	A Crimſon Velvet Eaſy Chair, and 2 Stools, ditto	13	7	6
13.	A wrought Dimity Bed and Furniture, compleat	28	18	4
Aug. 10.	A Down-Bed, Bolſter, Pillows, with a Mattraſs and Quilt	15	—	6
	Chairs 10, with two-arm'd ditto, Walnut-tree framed	34	12	6
Nov. 20.	A Fire-Screen, Bed-Table, and Dreſſing-Glaſs	8	14	6
	The Lady Wanton's Picture in a rich Frame carv'd	21	—	—

Sum l.

If a Servant receives the Bill, let the Receipt run thus:

Received the 30th December 1764. of the Right Honourable the Lord Bolſover, by the Hands of Mr. Simon Steward, the full Contents, for my Maſter P. Purſeproud.

B. Batchelor.

Her Grace the Duchess of Plinlimon, Dr.

To Crew Cabinetmaker.

		l.	s.	d.
1764.				
Octob. 3.	A Chimney Glass, and a Pair of Sconces	5	18	—
	A Pair of Pier Glasses 72 Inches, in gilt Frames	60	—	—
10.	A Pair of Indian Cabinets, at 43 l. 10 s. each			
	A fine Indian four-leaved Screen, and a Fire-Screen			
Nov. 18.	A Book-Case, with Glass-Doors, and a Corner-Cupboard, ditto	17	10	—
30.	A Walnut-tree Table, and a Set of Dressing-Boxes, japaned	21	—	—
Dec. 7.	A Tea-Table and Stand plated, wt. 103 oz. at 8s. 4d.	3	4	10
30.	A Dozen and half of fine matted Chairs, at 18s. 6d. each			
31.	Twelve Elbow-Chairs stuffed with Hair, at 1l. 15s. 6d. each			
	A Dressing-Table, with Implements for Writing	6	16	6
		l. 282	6	8

Received the 31st of December, 1764. of Her Grace the Duchess of Plinlimon Fifty Pounds in Part,

for Mr Crew Cabinetmaker.

℔ *Fairspoken Fairfax.*

Mr James Shortmeasure, Dr.

To Walstone Winecooper.

			s.	d.	
1764.					℔ Gall.
Mar.	28.	Palm Sack, 18 Gallons	at 8 .	6	℔ Gall.
Apr.	13.	Port Red, 35 Gall.			
May	26.	Sherry, 17 Gall.	at 6 .	6	
	31.	Rhenish, 19 Gall.	at 6 .	8	
July	13.	White Lisbon, 32 Gall.	at 4 .	10	
	20.	A double Chest of Florence, agreed for		4 . 0 . 0	
Aug.	30.	10 Dozen of best Burgundy	at 50 s.	℔ Doz.	

l. 66 . 16 . 6

The Reverend Mr Euclid Peachy, Dr.

To John Percival and Partners.

			s.	d.	
1764.					℔ Bush.
Mar.	27.	Oats, 5 Qrs.			℔ Bush.
Apr.	9.	Beans, 9 Bush.	at 4 .	10	
May	16.	Bran, 7 Qrs.	at 1 .	10	
June	19.	Tares, 19 Bush.	at 1 .	11	
	24.	Peas, 16 Bushues	at 3 .	11½	
July	2.	Pale Malt, 28 Bush.	at 3 .	2	
	17.	Hops, 17 Pounds	6	℔ each	

l. 22 . 7 . 3

Messrs Drake and Compton, Dr.

To Richard and Jacob Broughton, Dyers.

For Dying the Goods following, delivered ⅌ Order, to Edward Evelyn, Packer.

				l.	s.	d.	
1764.							
May	7.	Exeter Stuffs, yellow	70 Ps.	at 0 .	14 .	0	⅌ Ps. — l.
	13.	Norwich ditto, blue	30	at 0 .	11 .	6	
	20.	Tamies black	142	at 0 .	12 .	8	
July	1.	Colchester ...	28	at 0 .	19 .	0	
	28.	Camlets, ...	21	at 0 .	15 .	0	

l. 121 . 4 . 0

Mr Roland Upholder, Dr.

To William Warehouse and Company.

				l.	s.	d.
1764.						
Oct.	7.	Superfine ... Blankets	17 Pr.	at 1 .	3 .	10
	9.	Medium ditto	13	at 0 .	19 .	6
		Harrateen blue	31 Ps.	at 2 .	5 .	8
Nov.	6.	Cheney ditto	20	at 1 .	8 .	0
	18.	Green Linseys	10	at 1 .	8 .	0
Dec.	9.	15 Printed Callico Quilts	4	at 0 .	16 .	8

l. 164 . 6 . 4

The Honourable Sir Michael Newton, Knight of the Bath, Dr.

To Thomas Goldsmith.

1764.		oz.	dwts.	gr.		s.	d.	
May	31.	A Silver Set of Casters	wt. 25	10	10	at 7	9	℔ oz. l.
July	7.	Half a Doz Soup Plates	85	14	15	at 6	6	
	10.	A Silver Teapot and Lamp	29	16	15	at 6	4	
Aug.	9.	A large Punchbowl	67	—	16	at 6	10	
Nov.	6.	A Dozen Silver Spoons	33	11	10	at 6	2	
	11.	A Dozen Defert Knives, Forks and Spoons, with a Shagreen Cafe				40 . 0 . 0		

l. 120 . 8 . 11

Mrs Ann Finch, Dr.

To Samuel Silkman and Partner.

1764.		lb.		s.	d.	
July	30.	Tripoli Belladine Silk	44	at 19	10	℔ Pound — l.
Aug.	30.	Legee of Smyrna	12¼	at 16	7	
	14.	A Fangot of raw Silk	130	at 13	8	
Sept.	15.	Ditto of Ardas	118	at 12	4	
	30.	Gold and Silver Twist	17	at 6	4	℔ Ounce —
		Twisted Silk in Grain	12¾	at 3	0	

l. 331 . 2 . 7

The

Mr Charles Cloudesly, Dr.

Mr Charles Cloudesly, Dr.

To Joseph Ironmonger.

1764.

			s.	d.	l.
June 10. Spring Door Locks with Hinges	19 ——	at 4 .	0 .	3 each	
19. Bolts —— 42 Pounds ——	at	0 .	9		
Aug. 1. Birmingham Brass Locks —— 30 ——	at 7 .	0 .	6		
24. A Cast-Iron Back, *Cwt.* 1 . 3 . 10	at 14 .	0 .	8 ℔ *Cwt.*		
Sept. 10. Sheffield Nails —— 2 . 1 . 12	at	0 .	4⅜ ℔ *lb.*		
21. Plate-Iron —— 3 . 3	at	0 .	6¼ ℔ *lb.*		

l. 34 . 4 . 8

Mr Humphry Virginia, Dr.

To Thomas Tobacconist.

1764.

	Cwt.	s.	d.	l.
Mar. 26. 1 Hhd. of best bright Tobacco — qt. Nt.	5¼	at 0 .	10⅜ ℔ *lb. l.*	
Apr. 15. 1 Box of Oroonoko —— qt. Nt.	75¼ *lb.*	at 0 .	11¼	
19. 5 Bags of old Spanish —— qt. Nt.	684 *lb.*	at 0 .	4⅞	
May 25. ½ Hhd. — qt. Gr. 335. Tr. 42 is Nt. *lb.*	293	at 0 .	5⅞	
27. 2 Rolls —— qt. Nt.	94 *lb.*	at 1 .	5⅞	
July 14. A Parcel of Patomeck River —— qt. Nt.	113, *lb.*	at 1 .	8	

l. 64 . 2 . 6

H

Messrs Owen and Oswald, Dr.   To Tho. Teaduft and Conrade Coffeepot, Druggift.

	Cwt. lb. lb.	l. s. d.	l.
1764.			
Oct. 13. Galls — — wt. 1½ Tr. 12. Nt.	156. —	— at 0. 0. 9¼ ℔ lb.	—
27. Meftica Cochineal	18⅞ Pounds	— at 1. 12. 10	—
Nov. 16. Scammony —	37¼ Pounds	— at 0. 10. 0	—
19. Gum Arabick —	127 —	— at 0. 0. 8½	—
Dec. 1. Saffafras —	3¼ Hundred	— at 0. 0. 3¾	—
31. Opium —	10½ Pounds	— at 0. 6. 0	—
Jan. 11. Tea, one Canifter	75 —	— at 0. 13. 8	—
24. Affafoetida —	48 —	— at 0. 4. 6	—
Feb. 9. Contrayerva Root	7½ —	— at 0. 18. 6	—
		l. 136 . 11 . 0	

Messrs Somerfet and Draper, Dr.   To Blackwell Hall and Company.

		s. d.	l.
1764.			
Sept. 3. Serge de Nifmes 13 Ps.	— each 30 Yards	— at 3 . 10½ ℔ Yard	— l.
7. Silk Drugget — 24	— each 28½	— at 5 . 10	—
Oct. 12. Grograms — 30	— each 41	— at 2 . 8	—
19. Silk Camblets — 11	— each 40	— at 3 . 1½	—
Nov. 6. Duroys — 40	—	— at 32 . 0 ℔ Ps.	—
30. Shalloons — 51	—	— at 50 . 0 ℔ Ps.	—
Anterines — 10	— each 26½	— at 2 . 2 ℔ Yard	—
Dec. 30. Sagathy — 23	—	— at 1 . 4	—
		l. 774 . 14 . 2	

The Right Honourable Richard Earl of Castlemain, Dr.

To Benj. Builder, for Work and Materials in his Houfe at Henly Park, Surry.

					l.	*s.*	*d.*		
1764.									
Mar. 27.	Oaken Timber	– – 12 Load – –	at	2 .	5 .	0	₽ Ton	– 7.
30.	Fir Timber	– – 35 Ten – –	at	1 .	12 .	10	a Load	– –
Apr. 5.	Oaken Plank	– – 96 Feet – –	at	0 .	0 .	3¼	₽ Foot	– –
16.	Norway Deals	– – 590 – – –	at	6 .	15 .	0	₽ Hund.	– –
	Sixpeny Nails	– – 29 Thoufand –	at	0 .	3 .	10	₽ Thouf.	– –
May 5.	Ten Groat Nails	– – 3 Hundred –	at	0 .	14 .	10	₽ Ditto	–
June 28.	Work for myfelf	– – 90 Days – –	at	0 .	3 .	4	–	–
	Ditto for 3 Men	– 90 – – –	at	0 .	2 .	6	each	–
	Wainfcot	– – 73 Yards 7 Feet	at	0 .	3 .	2	₽ Yard agreed	
	Double Quarter	– – 58 Feet – –	at	0 .	0 .	4	₽ Foot	– –
July 30.	Chriftiana Deals 135	– – –	at	7 .	10 .	0	₽ Hund.	– –
	Riga Timber	– – 180 Feet cub'd	at	0 .	1 .	1	₽ Foot	– –

l. 207 . 13 . 3½

Note, Deals and Nails are 120, or fix Score to the Hundred. 50 Feet are a Load, and 40 Feet a Ton of Timber. 100 Square Feet are the Square of Carpentry, Tyling, &c.

Sir Edward Cornwall, Dr.

To Bernard Bricklayer, for Work and Materials in his House on Tower-Hill, London.

1764.					s.	d.	
Mar.	28.	Bricks	25 Thousand	at	15	7	℔ Thouf. l.
	30.	Tiles	11 Ditto	at	19	5	Ditto
Apr.	1.	Lime	28 Hundred	at	15	11	℔ Hund.
	12.	Sand	19 Load	at	3	10	℔ Load
June	28.	Work for myself	90 Days	at	3	0	℔ Diem
		Ditto for a Labourer	90	at	1	8	
		Ditto for my Man	90	at	2	6	

l. 88 . 6 . 7½

A Brick ought to be 9 Inches long, 4½ broad, and 2¼ thick. 500 Bricks are a Load. 500 Tiles the like. 25 Bushels are a Hundred of Lime. About 4500 Bricks will make a Rod of Brick-work, viz. 272¼ Sq. Feet, a Brick and half thick.

The Right Honourable, Charles Lord Bruce, Dr.

For Bricklayers Work at Savernacle, Wilts, performed by Philip Pilaster.

			l.	s.	d.	
Brick-work, 50 Rods, 68 Feet Statute Meafure		at	5	10	0	℔ Rod — l.
Tyling plain, 15 Square, 75 Feet		at	2	3	0	℔ Square
Rubed Return, 250 Feet		at	0	3	0	℔ Foot
Streight Arch, 72 Feet		at	0	2	0	
Jack Arch, 36		at	0	2	3	
Paving with 10 Inch Tile, 1769 Feet		at	0	0	9½	

J. 384 . 15 . 8

Measured and Valued July 10, 1764.

℔ William Sounds.

RECREATION VIII.

(82) WHAT Number, multiplied by 72084, will produce 5190048 exactly?

Answer, 72.

(83) What Number, divided by 419844, will quote 9494, and leave juft a third Part of the Divifor remaining?

Answer, 3986138884.

(84) The Sum of two Numbers is 360; the lefs is 114: What is their Difference, Product, and larger Quote?

Answer, 132. 28044. $2\frac{3}{19}$.

(85) I would plant 2072 Elms, in 14 Rows, 25 Feet afunder: How long will this Grove be?

Answer, $616\frac{2}{3}$ Fathoms.

(86) A Brigade of Horfe, confifting of 384 Men, is to be formed into a fquare Body, having 32 Men in Front: How many Ranks will there be?

Answer, 12.

(87) The Spectator's Club of fat People, though it confifted but of 15 Perfons, is faid, No. 9. to weigh no lefs than three Tons: How much, at an Equality, was that p Man.

Answer, Four Hundred Weight.

(88) The Remainder of a Divifion Sum is 423; the Quotient 423; the Divifor is the Sum of both and 19 more: What then was the Number to be divided?

Answer, 366318.

(89) What Number is that, from which if you deduct the 25th Part of 22525, and to the Remainder add the 16th Part of 9696, the Sum will be 1440?

Answer, 1735.

(90) A Perfon dying left his Widow 1780*l.* and 1250*l.* to each of his four Children, 30 Guineas a-piece to 15 of his poor Relations, and 150*l.* to Charities; he had been $25\frac{1}{2}$ Years in Trade, and at an Average had cleared 126*l.* a Year. What had he to begin with?

Answer, 4189*l.* 10*s.*

(91) The Globe of the Earth, under the Line, is 360 Degrees in Circumference, each Degree $69\frac{1}{2}$ Miles; and this Body being turned on its own Axis, in the Sydereal Day,

Day, or 23 Hours 56 Minutes: At what Rate an Hour are the Inhabitants of Bencoolen, fituate in the midft of the burning Zone, carried from Weft to Eaft, by this Rotation?
Anfwer, 1045$\frac{243}{349}$ Miles.

(92) A Fellow was faying, that when he told over his Bafket of Cheftnuts, two by two, three by three, four by four, five by five, or fix by fix, there was ftill an odd one; but when he told them feven by feven, they came even: How many had he? *Anfwer*, 721.

(93) Goliath is faid to have been 6 Cubits and an half, or a Span high; this anfwers to 10 Feet four Inches and $\frac{502}{1000}$: Pray what was the length of the Cubit in Britifh Meafure?
Anfwer, Inches 19,168.

(94) There are 2 Numbers; the bigger of them is 73 times 109, and their Difference 17 times 28. I demand their Sum and Product?
Anfwer, 15438. and 59526317.

(95) I would put 60 Hogfheads of London Beer into 30 Wine Pipes, and would know what the Cafk muft hold that receives the Difference; 231 folid Inches being the Gallon of Wine, and 282 that of Beer?
Anfwer, 143$\frac{29}{47}$ Beer Gallons.

(96) The continual Multiplication of the nine Digits will give the Number of Changes that may be rung on 9 Bells, (as well as of any other Combinations) how many are there?
Anfwer, 362880.

(97) There are two Numbers, the lefs is 187, the Difference 34; give the Square of their Product, Ditto of their Sum and Difference, and the Sum of thofe Squares?
Anfwer, Sum of Sq. 1708088549.

(98) There are two Numbers, whofe Product is 1610, the greater is given 46: What is their Sum, Difference, and Quotes; what the Sum of their Squares, and what the Cube of their Difference?
Anfwer, Sum of Sq. 3341. The Cube of Diff. 1331.

(99) There are other two Numbers, the greater 7050, which divided by the lefs, quotes 94: What is the Difference of their Squares; and what the Square of the Product of their Sum and Difference?
Anfwer, Diff. of Sq. 49696875.

There

(100) There are still two Numbers, 75 is the less, to which the greater is in Proportion as 8 to 5: What is the Sum, and the Product of their Sum and Difference; the Difference of their Squares, and the Sum of the Squares of their two Quotes, the greater divided by the less, and the less again by the greater?

> *Answer*, Sum of Sum and Diff. 240. Product of Sum and Diff. 8775. Diff of Sq. 8775. Sum Sq. of the two Quotes $2\frac{1521}{1600}$.

(101) There are two Numbers more, the greater 224, bearing Proportion to the other as 8 to 7: What is the Square of their Sum, Difference, and either Quote; and what is the Result of the Square of the Sum of their Difference, added to the Product of their Sum and Difference?

> *Answer*, Sq. of Sum 176400. Sq. Sum of Diff. and Prod. 138956944.

(102) In order to raise a Joint-Stock of 10000 *l.* L. M. and N. together subscribe 8500 *l.* and O. the rest: Now M. and N. are known together to have set their Hands to 6050 *l.* and N. has been heard to say, that he had undertaken for 420 *l.* more than M. What did each Proprietor advance?

> *Answer*, L. 2450 *l.* M. 2815 *l.* N. 3235. O. 1500 *l.*

(103) What Number multiplied by 57 will produce just what 134 multiplied by 71 will do?

> *Answer*, $166\frac{52}{57}$.

(104) A. B. and C. play in concert at Hazard; and at making up Accompt, it appears that A. and B. together brought off 13 *l.* 10 *s.* B. and C. together 12 *l.* 12 *s.* and A. and C. together won 11 *l.* 16 *s.* 6 *d.* What did they severally get?

> *Answer*, A. 6 *l.* 7 *s.* 3 *d.* B. 7 *l.* 2 *s.* 9 *d.* C. 5 *l.* 9 *s.* 3 *d.*

(105) Some others advance in Trade as follows, *viz.* W. X. and Y. raised 350 *l.* 10 *s.* W. X. and Z. 344 *l.* 10 *s.* X. Y. and Z. made up together 400 *l.* and W. Y. and Z. contribute 378 *l.* 4 *s.* In the Conclusion, they parted with their joint Property for 450 Guineas: What did they gain or lose by their Adventure?

> *Answer*, They lost 18 *l.* 11 *s.* 4 *d.*

BILLS

BILLS of PARCELS used by Merchants and Wholesale-Dealers.

Mr Samuel Robinson, London, April 4, 1764.

Bought of William Stapleton, 6 Parcels of French Cloth, to pay at 6 Months, as follows, viz.

No					$l.$	$s.$	$d.$		$l.$
4.	qr. 3	Ps.	Dowlas	at	3	6	0		
7.	4	Ps.	Ditto	at	4	10	0		
8.	3	Ps.	Ditto	at	4	15	0		
14.	3	Ps.	Lockrams	at	2	15	6		
17.	3	Ps.	Ditto	at	2	18	0		
20.	4	Ps.	Ditto	at	2	7	6		

20 Ps. in all amount to $l.$ 68 . 13 . 6

William Cobb Esq; Octob. 21, 1764.

Bought of James Inwyn and Partner, 8 Bags of Farnham Hops, for ready Money, viz.

No		Cwt.	qr.	lb.
1.	wt.	2	2	18
2.		2	3	10
3.		2	2	17
4.		2	1	0
5.		3	0	8
6.		3	1	3
7.		3	0	20
8.		2	2	7

Cwt.   at 11 $d.$ $\frac{1}{2}$ per Pound

Bought of Patrick Jefferies, 6 Casks of Barbadoes Sugar, at a Month, viz.

		Cwt.	qr.	lb.		qr.	lb.
No.	81.	wt. 8	3	23	— Tare 3	.	7 each
	82.	8	2	21			
	83.	8	0	12			
	84.	8	1	16			
	85.	7	3	20			
	86.	8	0	16			

Gr.
Tr.

Nt. . at 47 . 6 ⅌ Cwt. ——— l. 107 . 13 . 7

s.   d.

Mr Richard Sands,

Bought of Anne Smart and Company, Sept. 13. 1764. 5 Buts of Rape Oil, viz.

		Cwt.	qr.	lb.		qr.	lb.
No.	43.	wt. 10	0	10	— Tare 2	.	13
	48.	11	2	18		2	26
	52.	10	1	0		2	13
	57.	11	0	12		2	21
	60.	12	3	17		3	9

Gr.
Tr.
Nt.

Cwt.

Gall. 23l. 16s. ⅌ Tun. ——— l. 79 . 2 . 1

Note, The Tun of sweet Oil is 236 Gallons and 7 lb. ½ make a Gallon of Oil.

I

Sir Andrew Gosling and Company,
Bought of the United East-India Company, &c. at four Months. Nov. 27. 1764.

Pepper, 2 Lots, viz.

		Cwt. qr. lb.		lb.
No 17.	10 Bags	qt. 27 . 1 18	Tr.	150
20.	10 Ditto	24 . 3 24		138

Gr.
Tr.
Nt. at 10¾d. ₱ lb. ———— l.

Red-wood, 2 Lots, viz.

		Ton. Cwt.
No 47.	120 Sticks	10 . 13½
48.	100 Ditto	11 . 12
	220 Sticks wt.	at 3 . 7 ₱ Ton. ———— l. s.

Worm-seed, 3 Bales, viz.

		Cwt. qr. lb.
No 18.	wt.	3 . 1 . 10
24.		4 . 2 . 0
37.		2 . 3 . 19

Gr.
Tr. 1 . 0 . 15
Nt. Cwt. at 13½d. ₱ lb. ———— l.

l. 376 . 8 . 8

Mr Peter Paydown and Company,   London, April 24. 1764.

Mr Peter Paydown and Company,

Bought of Titus Tradewell, for ready Money. Cotton 13 Bags. *viz.*

	Cwt.	qr.	lb.
No 1.	3	1	7
2	2	3	0
3.	2	3	5
4.	3	0	15
	11	3	27
	12	1	1
Total Grofs.	24	1	0
Tare allowed.	0	3	13
	Cwt.	qr.	lb.
	23	1	15

	Cwt.	qr.	lb.
No 17.	2	3	16
24.	3	1	10
28.	3	0	27
30.	2	3	4
	12	1	1

Total Grofs.
Tare allowed. lb.
Suttle 2619.
Tret. 100.
Net. 2519 at 14 d. ₱ lb. ———— *k.*

More. *viz.*	Cwt.	qr.	lb.
No 30.	2	3	12
31.	3	0	10
32.	3	1	26
33.	3	2	8
34.	2	2	7

Damaged.

	Gr.	Tr.	
	0	2	2

Suttle. . . .
Tret . . . .
Net . . . . at 4 d. ₱ Pound. ———— *a.*

£ 173 . 16 . 6

RECREATION IX.

(106) BY selling 240 Oranges at five for 2 d. half of which
cost me two a Peny, and the other half three a Peny,
I evidently lose a Groat: Pray how comes that about?

Answer, There were twenty Penyworth more of the last
Sort bought, than of the first; the Remainder at the
selling Price mentioned, will fetch but 16 d. whereas
they cost me 20 d.

(107) In a Series of proportional Numbers the first is 5, the
third 8; the Product of the second and third is 78,4: What
is the Difference of the second and fourth?

Answer, 5,88.

(108) What Quantity of Water will you add to a Pipe of
Mountain Wine, value 33 l. to reduce the first Cost to 4 s.
6 d. the Gallon?

Answer, 20⅔ Gallons.

(109) If the Cubick Inch of Oil Olive be ,52835 decimal
Parts of an Ounce Avoirdupoiz; what Quantity of Oil, weigh-
ing 7½ Pound ⅌ Gallon, will be contained in a Cask, al-
lowed to hold 13⅓ Gallons of Water, each 282 solid Inches?

Answer, 16⅘ Gallons.

(110) With 13 Gallons of Canary, at 6 s. 8 d. a Gallon, I
mingled 20 Gallons of White Wine, at 5 s. a Gallon; and
to these added 10 Gallons of Cyder at 3 s. a Gallon, at what
Rate must I sell a Quart of this Mixture, so as to clear 10
⅌ Cent? *Answer*, 16 9/14 d.

(111) What Difference will there be to the Proprietors of
an Aqueduct, between doubling an Expence, and halving a
Profit? *Answer*, 4 to 1.

(112) If 100 l. in 12 Years, be allowed to gain 39 l. 19 s.
8 d. in what Time will any other Sum of Money double it-
self by the same Rate of Interest?

Answer, Something more than 30 Years.

(113) What Difference is there between the Interest of 500 l.
at 5 ⅌ Cent. for twelve Years, and the Discount of the same
Sum, at the same Rate, and for the same Time?

Answer, 112 l. 10 s. Advantage to the Interest.

When

(114) When the Sun is in the Meridian at Soho-Square, in what Time will it be so at Tyburn, lying due West of it, at the Distance of a measured Mile, in the Latitude of $51\frac{1}{2}$ Degrees, where the Degree of Longitude turns out Miles $37\frac{11}{30}$, known by the diurnal Rotation of the earth to pass in 4 Minutes time?

Answer, 6 Seconds, and 26 Thirds nearly.

(115) If 12 Apples are worth 21 Pears, and 3 Pears cost a Halfpeny; what will be the Price of fourscore and four Apples? *Answer*, 2 s. 0 d.

(116) Six of the Female Cricketers that play'd lately in the Artillery Ground, fetched in Company Strokes as follows, *viz.* A. B. C. D. E. 207, A. C. D. E. F. 213, A. D. E. F. B. 189, A. E. B. C. F. 234, A. B. D. C. F. 222, B. F. D. C. E. 250: How many did they fetch on the other Side, since these 6 Persons wanted but fourscore and 13 Notches to decide the Game? *Answer*, 356.

(117) If a Sack of Coals be the Allowance of 7 poor People for a Week, how many Poor belonged to that Parish, which, when Coals were 36 s. ⅌ Chaldron, had 41 l. to pay in 6 Weeks on that Account?

Answer, $318\frac{8}{9}$.

(118) It is a Rule in some Parishes to assess the Inhabitants in Proportion to $\frac{8}{10}$ of their Rents: What is the yearly Rent pray of that House, which pays 8 l. 10 s. to the King under this Limitation, at 4 s. in the Pound?

Answer, 42 l. 10 s. 0 d.

(119) If by selling Hops at 3 l. 10 s. ⅌ Cwt. the Planter clears 30 ⅌ Cent. what was his Gain ⅌ Cent. when the same Goods sold at 4 l. and a Crown?

Answer, 57 l. 17 s. $1\frac{5}{7}$ d.

(120) If by remitting to Holland, at 31 s. 9 d. Flem. ⅌ Pound Sterling, 5 ⅌ Cent. is gained: How goes the Exchange, when by Remittance I clear 10 ⅌ Cent?

Answer, 33 s. $3\frac{5}{7}$ d.

(121) If, when Port Wine is 17 Guineas the Hogshead, a Company of 45 People will spend 20 l. therein, in a certain Time; what is Wine a Pipe, when 13 Persons more, will spend 63 l. in twice the Time, drinking with equal Moderation? *Answer*, 43 l. 12 s. 6 d. nearly.

I am

(122) I am difpatched on a Commiffion from London to Edinburgh, diftant by Computation, fay 350 Miles, and my Rout is fettled at 22 Miles a Day: You, 4 Days after, are fent after me with frefh Orders, and are to travel 32 Miles a Day; whereabout on the Road fhall I be overtaken by you?

Anfwer, 68$\frac{4}{10}$ Miles on this Side Edinburgh.

(123) The Net Proceeds of a Hhd. of Barbadoes Sugar, were 4*l*. 14*s*. 6*d*. the Cuftom and Fees, 2*l*. 8*s*. 6*d*. Freight, 22*s*. 8*d*. Factorage, 4*s*. 6*d*. The grofs Weight was, *Cwt.* 9. 94*lb*. Tare, 1 in 10; pray then how was the Sugar rated in the Bill of Parcels?

Anfwer, 19*s*. 2$\frac{278}{493}$ *Cwt.* nearly.

(124) Sold a repeating Watch for 50 Guineas, and by fo doing loft 17 ⅌ *Cent.* whereas I ought, in dealing, to have cleared 20 ⅌ *Cent.* then how much was it fold under the juft Value?

Anfwer, 23*l*. 8*s*. 0$\frac{72}{83}$*d*.

(125) If 6 *lb.* of Pepper be worth 13 *lb.* of Ginger, and 19*lb.* of this be worth 4$\frac{1}{4}$ *lb.* of Cloves, and 10 *lb.* of Cloves be equivalent to 63 *lb.* of Sugar, at 5 *d.* ⅌ Pound; what is the Value of an *Cwt.* of Pepper?

Anfwer, 7*l*. 2*s*. 5$\frac{87}{114}$*d*.

(126) If by fending Pewter to Turkey, and parting with it at 25$\frac{2}{3}$*d*. ⅌ Pound, the Merchant clears *Cent.* ⅌ *Cent.* what does he clear in Holland, where he difpofes of the *Cwt.* for 8 *l.*? *Anfwer,* 2*l*. 0*s*. 2$\frac{2}{3}$*d*.

(127) If 30 Men can perform a piece of Work in 11 Days, how many will accomplifh another, 4 times as big, in one fifth of the time?

Anfwer, 600.

(128) A May-Pole, 50 Feet 11 Inches long, at a certain time of Day, will caft a Shadow 98 Feet 6 Inches long: I would hereby find the Breadth of a River, that, running within 20 Feet 6 Inches of the Foot of a Steeple, 300 Feet 8 Inches high, will, at the fame Time, throw the Extremity of its Shadow 30 Feet 9 Inches beyond the Stream.

Anfwer, 530 Feet, 4$\frac{487}{211}$ Inches nearly.

Of

Of BILLS of EXCHANGE.

THE *Bill of Exchange*, in Use among Perfons of Correfpondence and Dealing, is a fhort Order for Money, to be received in *one* Place or Country, for the Value paid in *another*; to which Men of Credit, pay a very ftrict Honour and Regard. In it are fpecified: 1. *The Place of the Drawer's Refidence.* 2. *The Time of Payment.* 3. *To whom.* 4. *The Sum.* 5. *Ufually at what Rate of Exchange.* 6. *Of whom the Value was received,* or *to whofe Accompt the Draught is to be placed.* 7. *The Drawer's Name.* 8. *By whom,* and *Where to be paid.*

In Bills of Exchange there are commonly *four* Perfons principally concerned: 1. The *Remitter,* who pays the Value to, 2. The *Drawer,* who receives it *in one Place,* and furnifhes him with a Bill upon, 3. The *Acceptant,* who is expected to pay in due Time, to, 4. The *Poffeffor* or *Prefenter,* who is to receive the Contents *in another Place*; not but fometimes there are only *three* Perfons concerned in a *Remittance,* and fometimes, though but feldom, *two only.*

All *Bills of Exchange,* upon their coming to the *Prefenter's* Hands, from the *Remitter,* are immediately to be tendered to the *Perfon* on whom they are drawn for *Acceptance,* which, by legal Appointment, ought to be made in *Writing* under the Bill.

If a Bill be payable at *Ufance,* or *after Date,* the Acceptant's fubfcribing his Name, or making any other Mark on the fame, is fufficient and valid Acceptance; but if it be payable *after Sight,* the *Day* on which it is tendered for Acceptation muft be alfo mentioned upon it; becaufe, upon that depends the Time of *Payment*; by which *Acceptance,* he becomes abfolutely and irrevokably Debtor to the Prefenter, for the Contents; or the Courfe of Exchange would, otherwife, be fubject to great Hazards and Uncertainties.

But if the Party, to whom a Bill is directed, *refufes* to accept it, after twenty four Hours Deliberation, if it be a Foreign Bill, or upon Prefentment, if an Inland Bill, *Proteft* muft be made for Non-Acceptance at the Place of his Abode, by a Notary-Public, who is to be Witnefs of that Refufal; which Proteft fhould, for the Security of the *Prefenter,* be returned the firft Poft to the *Remitter,* that he

may

may furnish a new Bill, or take his proper Measures with the Parties concerned.

The *Drawer* of a Bill should always the same Post take Care to give his *Correspondent* Notice, by Letter, that he has drawn upon him for so much, payable as in the Bill, to prevent its being *Protested*, and sent him back *Non-Accepted*, for want of due *Advice*; for in that Case, his Correspondent may refuse to accept, till Advice arrives, if the Bill mentions Advice to be expected.

To prevent Interruption of Business by Miscarriage of Letters, or other Accidents, Merchants always draw *two*, and often *three* Outland Bills, all of the same Tenor and Date, excepting in the *second* against the *first*, and if there be *three* drawn, against the *third* also, and in the *third* against the *first* and *second*, to prevent the Accepter's paying more than one of them by Mistake; which Bills, the Remitter takes Care to send his Correspondent, to whom they are made payable, by different Posts, one of which being answered, the rest are of no Force.

If an accepted Bill be not *paid upon Demand*, the very Day it falls due, it must be *Noted*, that is, put into the Hands of a *Notary-Public*, by the *Presenter*, in order to have a *Protest* drawn up, under a *Copy* of the Bill, for Non-Payment; which *Protest*, within fourteen Days at farthest, must be returned (but not the Bill itself, unless for special Reasons) to the *Remitter*, who paid the Value, and who is to give Satisfaction for his Concern therein to the *Presenter*, and who will procure Satisfaction of the *Drawer*; not only with respect to the Principal Sum, and the Interest thereof, from the Day of Protest, but also may recover the Rechange of the said Sum, with Charges of Protest, and whatever Damages shall be incurred by the Default of his Correspondent, the Acceptant; though Rechange is not always insisted on.

The Neglect of Protest in due Time, leaves the *Presenter* or *Possessor* of a Bill no Security but that of the *Acceptant*; whereas he has otherwise, the Drawer, and every one of the *Indorsers*, (if any) besides the *Acceptant*, to depend on for the *Principal* and *Damages*; and if but one of them prove sufficient, he will be no Loser.

No Bill *of Exchange* can be protested, unless the *Value* be mentioned therein to be *received*, and the Person named *of whom*; nor is it usual among Dealers to note an *Inland Bill* under 20 *l.* Value, such Bills are commonly returned

turned without *Charges*; not but that it may, after Acceptance, be lawfully done, if the Bill be above 5 *l.* Value.

If you Difcompt, or pay a Debt with an Inland Bill, payable to your *Self* or *Order*, you write your *Name* on the Backfide, and deliver it into the Poffeffion of the *Perfon* you intend to make it over to, which is called *Indorfing*, whereby you affign all your Property therein to him; and in Cafe of the *Acceptant*'s Failure before it is paid, *You* are, by Virtue thereof, as refponfible to fuch your *Affign* for the Contents and Damages, upon *Proteft* made, as the *Remitter* is to you, and the *Drawer* to him. In like Manner, let a *Bill* be indorfed by *feveral* Perfons, the *Poffeffor*, or Perfon to whom it was laft affigned, in Cafe of Non-Payment, caufes Proteft to be made, which being returned to the laft Indorfer, he is obliged to fatisfy the laft Poffeffor, as to the Contents and Charges, and returns it in the fame Manner to the fecond; he to the third, &*c.* till at laft, it recurs upon the Drawer, who is obliged to anfwer all Damages, as before. In the fame Manner ought *Promiffory Notes* to be treated, they being, in the Eye of the *Law*, of the Nature of *Inland* Bills of Exchange.

But, on an *Outland* Bill, befides the Indorfer's Name, it is ufual to fill up the Indorfement, by appointing Payment to his *Order*, naming the *Perfon* he affigns it over to; fpecifying the Conditions and Reafons that induced him to make fuch Indorfement; as, *Pay* Mr *R. W*————, or *Order, Value in Accompt, S. S.* And if Mr *R. W*—— fhould affign it to another; *Pay* Mr *P. D*———— or *Order, Value of himfelf, R. W*———— remembring always, that unlefs the Word *Order* be inferted, no *Bill of Exchange*, or *Promiffory Note*, is indorfible to another.

If the Acceptant of a Bill fhould chance to fail, between the Time of Acceptance, and that of Payment, Proteft may be made in that Cafe for better Security, before the Bill becomes due; not but, by the good Underftanding among Dealers, the Damages, as *Brokerage, Intereft,* &c. that would follow Proteft, are frequently prevented, efpecially if the Drawer, or any of the Indorfers, be fufficient Perfons; for any of their Correfpondents, out of Refpect, may Re-accept the Bill, for Honour of the Drawer or Indorfer, if applyed to by the Poffeffor, after he has, for Security of

K   the

the Re-accepter, caused the Bill to be protested, with a Declaration, that the Bill was re-accepted for Honour of the Drawer, &c. underwriting it, *Accepted for Honour of the Drawer,* ♀ *L. L.* Or, if the Respect was shewn to an Indorser; Accepted for Honour of the Indorser, *W. W.* ♀ *L. L.* In the same Manner are to be served such Bills as are drawn upon a Person, who has not equivalent Effects of the Drawer's in his Hands, or that has not received due Advice of the Bill presented to him for Acceptance; which will entitle him to a legal Claim upon the Drawer, if he thinks he may venture, under those Circumstances, to honour his Bills.

When these Bills, *accepted under Protest,* become due, it is the Custom of Merchants to have a *second* Protest for Non-payment, made by the *Possessor,* with a Declaration, as before, that the Re-accepter did pay the same with Charges, for Honour, as aforesaid; which Protests, the Re-acceptant, for his own Security, will take Care to return, with the first Opportunity, to his Friend and Correspondent, in whose Favour he advanced the Money.

Protest for better Security may also be made, if the Acceptant be under an ill Repute; upon which, if he give Security for the Payment of the Bill in due Time, the Security becomes responsible, as well as the Drawer, should the Acceptant prove insolvent.

The *Usance,* or *Usage of Merchants,* with respect to *Foreign* Bills of Exchange, to and from London to Rotterdam, Antwerp, or any Part of the Low Countries, is one Kalendar Month after the Date of the Bill; double Usance two Months, &c. Usance from Hamburg, Copenhagen, Stockholm, Lubeck, Strasburg to London, and *Contra,* is also one Month; though Bills from those, and other distant Places, are commonly drawn payable *after Sight,* because of the Uncertainty of their Arrival. Usance from London to Lisbon or Madrid, is two Months; to Leghorn, Venice, or any Part of the Levant, is three Months, and *Contra.*

After Bills of Exchange become due, whether *Inland* or *Foreign,* payable at Sight or otherwise, there are, by Custom of Merchants, certain *Days of Grace* allowed the Accepter, over and above the Time prescribed by the Bill, which are more or less, according to the Usage of the
Country

Country wherein they are to be paid; as in Rotterdam they allow three Days; Rouen, five; Paris, ten; Hamburg, twelve; Antwerp and Madrid, fourteen; and London always three: And on the *third* Day before Sun-set, Payment must be demanded on the Part of the Presenter; and, if not complied with, the Bill must that very Day (being the utmost Time allowed by the Law for that Purpose) be *Noted*, in order to be *Protested* for *Non-Payment*.

If a Bill fall due on a *Sunday*, or other great Holiday, it is to be demanded and paid, or protested, the Day *before*. In any other Case, no Bill of Exchange ought to be paid by the Accepter before it is *fully* due, unless the Remitter shall signify his Allowance of it in Writing. For, as the Remitter delivered his Money to the Drawer, in order to have it paid again to such Person as he shall direct, it is, and ought to be, in his Power to guide, and even divert the Payment, by altering the Bill, and making it payable to any other Person, whom he shall think fit, during the whole Interval between the Acceptance and Day of Payment. And if the Acceptant shall voluntarily pay it before to any one, and that Person should fail, before it falls due, he will be liable to pay it to the Remitter's Order a second Time.

RECREATION X.

(129) BOUGHT Hose in London at 4 s. 3 d. the Pair, and Sold them afterwards in Dublin at 6 s. the Pair: Now, taking the Charges at an Average to be 2 d. the Pair, and considering that I must lose 12 ℔ *Cent.* by remiting my Money Home again, what do I gain ℔ *Cent.* by this Article of Trade?

Answer, 19 l. 10 s. 11 17/53 d.

(130) If the Scavenger's Rate at 1 d. ½ in the Pound, comes to 6 s. 7 d. ½, where they ordinarily assess ⅘ of the Rent: What will the King's Tax for that House be, at 4 s. in the Pound, rated at the full Rent?

Answer, 13 l. 5 s. 0 d.

(131) If my Factor at Leghorn return me 800 Barrels of Anchovies, each weighing 14 lb. Net, worth 12 d. ½ ℔ Pound,

K 2   in

in lieu of 7490 Pounds of Virginia Tobacco, and if I find that I have gained after the Rate of 17 *per Cent.* by the said Confignment: Pray how was my said Tobacco invoyced *per* Pound to the Factor, that is, what was the prime Coft?

Anfwer, 15 d $\frac{55505}{87633}$.

(132) In the Year 1582 Pope Gregory reformed the Julian Kalendar, ordaining, that as the Year is found to confift only of 365 Days, 5 Hours, and about 49 Minutes, in order to prevent the Inconvenience of carrying the Account of Time too forward, by taking the folar Year at 365 Days, and 6 Hours full, which, in a Series of Years, muft bring Lady-Day to Michaelmas, that the Chriftian States for the future fhould drop 3 Days in Account every 400 Years: that is to fay, for each of the firft three Centuries in that fpace of Time, the intercalary Day in February fhould be omitted, but retained as formerly in the laft or fourth Century, beginning with the Year 1600, when 10 whole Days were funk at once. By which Artifice, the Variation of Time will not, at leaft for a long Space, be very confiderable: According to this Regulation, it is required to know in what Year of Chrift the New Stile, as it is called, will be 20 Days, as now it is only 11, before the Old Stile, which makes no fuch Allowance?

Anfwer, Anno 2900.

(133) A Tradefman increafed his Eftate annually a third Part, abating 100*l.* which he ufually fpent in his Family, and at the End of 3¾ Years, found that his net Eftate amounted to 3179*l.* 11*s.* 8*d.* Pray what had he at outfetting?

Anfwer, 1421*l.* 7*s.* 6*d.*

(134) *A.* and *B.* paid equally for a Horfe, Feb. 7. 1750, *A.* on the 10th, took him a Journey into the Weft, and returned on the 10th of June following. *B.* on the 2d of Aug. took him into Scotland, and ftayed till Nov. 13th, and this concluded his Service this Year. From Jan. 17. following *A.* ufed him ten Days, and, in fix Weeks after his Return, employed him till April 30. *B.* then rode him from May-day to Midfummer. *A.* had him from the 14th of July, to fourteen Days after St James's-tide. *B.* on Sept. 30. took him into Norfolk, and came back Oct. 19. He then was fold for 7 *l.* 10*s.* and they would have the Money

Money parted equitably between them, *viz.* in Proportion to the Use each made of their Steed?

Answer, A. 3 *l.* 9 *s.* 4 *d.* $\frac{20}{23}$. B. 4 *l.* 0 *s.* 7 *d.* $\frac{101}{183}$.

(135) An Accomptant told a Gentleman, who had constantly eight Persons at his Table, that he would gladly make a ninth, and was willing to give 200 Guineas for his Board, so long as he could place the said Company at Dinner, differently from any one Day before; this being accepted, what did his Entertainment cost him a Year?

Answer, 50 *d.* and about $\frac{2}{3}$.

(136) Part 1500 Acres of Land, give B. 72 more than A. and C. 112 more than B.

Answer, A. 414 $\frac{2}{3}$. B. 486 $\frac{2}{3}$. C. 598 $\frac{2}{3}$.

(137) Bought Comfits to the Value of 41 *l.* 3 *s.* 4 *d.* for 3 *s.* 1 *d.* ℔ Pound. It happened, that so many of them were damaged in Carriage, that by selling what remained good at 4 *s.* 6 *d.* the Pound, my Returns were no more than 34 *l.* 2 *s.* 6 *d.* Pray how much of these Goods were spoiled, and what did this Part stand me in?

Answer, 17 *l.* 15 *s.* 8 *d.* $\frac{2}{3}$.

(138) Ten Pounds a Quarter is allowed to the five Auditors of a Fire-Office. They attend about 7 times in the Quarter, and the Absentees Money is always divided equally among such as do attend. A. and B. on these Occasions never miss. C. and D. are generally twice in a Quarter absent, and E. only once: At the Payment, what had each Man to receive?

Answer, A. and B. 2 *l.* 9 *s.* 0 *d.* $\frac{1}{2}$ each. C. and D. 1 *l.* 10 *s.* 0 *d.* and E. 2 *l.* 1 *s.* 11 *d.*

(139) In some Parishes in the Country, they take off 3 *l.* one Year in 17 from the Rents in assessing the Farms: What will the Landlord receive Net out of a Farm of 140 *l.* a Year in those Places, when the King's Tax is, as now, 4 *s.* in the Pound? *Answer,* 116 *l.* 18 *s.* 10 *d.*

(140) A. can do a Piece of Work in 10 Days, B. alone in 13; set them both about it together, in what Time will it be finished?

Answer, 5 $\frac{15}{23}$ Days.

Inland

Inland BILLS of EXCHANGE.

Worcefter, April 15, 1764. *l.* 64 . 0 . 0

Payable AT Sight pay Mr William Nichols, or Order,
at Sight. the Sum of Sixty-four Pounds, the Value re-
ceived of Captain John Anderfon, and place it to
Accompt, as ℔ Advice from

To Mr Michael Hale,
at the Red Lion, Smith-   *Edward Dealmuch.*
field, London.

Sir,   Greenwich, May 10, 1764. *l.* 13 . 10 . 0

At Sight, pay Mr Godfrey Langham, the Sum of
Thirteen Pounds ten Shillings, out of my growing
Subfiftance, Value of ditto, and place it, without
further Advice, to Accompt of
Your Humble Servant,

To Mr Jeoffry Ransford,
Agent at the Horfe-guards,   *Miles Cornet.*
Whitehall, London.

London, June 2, 1764.   *l.* 162 . 8 . 0

Payable At twelve Day's Sight, pay Mr Andrew Aldridge,
after   or Order, the Sum of One hundred Sixty two
Sight. Pounds eight Shillings, for the Value received of
Thomas Jones Efq; and place it to Accompt, as ℔
Advice from   Yours,

To Mr Thomas Wells,
Clothier, Shrewsbury.   *Alex. Countwell.*

Sir,   Norwich, June 9, 1764. *l.* 42 . 15 . 0

At fix Days Sight, pay Mr Jeremiah Snow, or
Order, Forty two Pounds fifteen Shillings, Value
of himfelf, and place it without farther Advice to
Accompt of

To Mr John Sherman,
Cheefe-Factor, Chefter.   *Samuel Pryor.*

Sir,

Sir,   Salisbury, July 14, 1764.   *l.* 8 . 8 . 6

Payable   Twenty Days after Date, pay William Crofts
after   Eight Pounds eight Shillings and six Pence, Value
Date.   received of the Right Honourable the Lady North-
all, and place it, as by Advice from
To Alderman Joseph   Yours,
Pitts, Exon.   *Benjamin Busy.*

Bristol, July 31, 1764.   *l.* 300 . 0 . 0

Two Months after Date, pay Mr Luke Loudwa-
ter, or Order, Three hundred Pounds, Value received
of George Granby Esq; and place it to Accompt, as
by Advice from
To Mr Oliver Madders,
at the Bull, Breadstreet,   *Titus Timely.*
London.

Edinburgh, Octob. 4, 1764.   *l.* 50 . 0 . 0

The first of November next, pay Sir William
Methwold, or Order, Fifty Pounds Sterling, Value
in ourselves, and place it, without more Advice, to
Accompt of
To Sir John Pa-
terson, Limestreet,   *Jonath.* and *David Bruce.*
London.

N. B. *If Sir William sends his Servant Valentine
Lively, to receive this Bill, after he has indorsed it,
which is his Order, the Servant may write over it;*

Received, Nov. 4, 1764. the Contents.
                       William Methwold.
l. 50 . 0 . 0   Witness, *Val. Lively.*

Or only witnessing it will serve; and so of any other.

                            Men

Men of great Busineſs ſeldom trouble themſelves with Receipts and Payments of Caſh, but give an Order on their Banker, thus:

Meſſrs Norman   London, Nov. 4, 1764. *l.* 50 . —— . ——
and Fox,

Payable to   Pay Sir William Methwold, or Bearer, Fifty
Bearer.   Pounds, on Accompt of

                                         John Paterſon.

Another.

Mr Mead,   Tunbridge, July 30, 1764.
     Pay Mr Thomas Morgan, or Bearer, One hundred
and ſeventeen Pounds three Shillings and three Pence,
on Demand, and place it to my Accompt.

To Mr Mead, Fleet-   *Arlington.*
    ſtreet, London.

Lancelot Yeoman,   Leith, Aug. 2, 1764. *l.* 150 . 0 . 0

A Gentleman's   The ſecond of November next, pay Her-
Order on a   cules Horſeman, or Bearer, One hundred and
Tenant.   fifty Pounds Scots, out of your Michaelmas
             half Year's Rent; make good Payment, ex-
             pecting no farther Advice, the Value received
             of him, by
To Lancelot Yeoman,   Your Friend,
    in the Lordſhip of   *Killdrummy.*
Kildrummy, Aberdeenſh.

Of Foreign BILLS of EXCHANGE.

FOreign Cities drawing Bills of Exchange upon London, always mention the Rate of Exchange, becauſe they draw in their own Money; but when Bills are drawn by London on Foreign Cities, in their Money, the Rate of Exchange is not mentioned, that being a particular Agreement between the *Remitter* and the *Drawer*, which concerns not the Acceptant, nor the Receiver; ſo that they run abſolutely for ſo many Pieces, or ſo much of their Current Money: except in Holland, in which Caſe the Sum is firſt preſcribed in Sterling, and then at what Rate of Exchange.

                                         London,

London, June 10, 1764. for Crowns 612, at Usance.

London on *Calais.* *First Bill.*	At Usance, pay this first of Exchange to Col. John Ward, or Order, Six hundred and twelve Crowns, for the Value here received of the Right Honourable Charles Earl of Wrexham, and place it to Accompt, as ℔ Advice from

To Mr Moses Mayhew,   *Godfrey* and *Gower.*
Merchant in Calais.

London, June 10, 1764. for Crowns 612, at Usance.

Second Bill.	At Usance, pay this my second of Exchange, my first not paid, to Col. John Ward, or Order, Six hundred and twelve Crowns, for the Value here received of the Right Honourable Charles Earl of Wrexham, and place it to Accompt, as by Advice from

To Mr Moses Mayhew,   *Godfrey* and *Gower.*
Merchant in Calais.

Paris, July 3, 1764. for Crowns 150, at 31½ d. 2 Usance.

Paris on *London.* *First Bill.*	At double Usance, pay this first of Exchange to Mr Richard Rich, or Order, the Sum of One Hundred and fifty Crowns, at thirty one Pence half Peny ℔ Crown, Value of Mr David Le Petre, and pass it to Accompt, as ℔ Advice.

To Mr Paul Puttoff,   *Frederic Farfetch.*
London.

Paris, July 3, 1764. for Crowns 150, at 31½ d. 2 Usance.

Second Bill.	At double Usance, pay this second of Exchange, my first not paid, to Mr Richard Rich, or Order, the Sum of one hundred and fifty Crowns, at thirty one Pence half Peny ℔ Crown, Value of Mr David Le Petre, and pass it to Accompt, as ℔ Advice.

To Mr Paul Puttoff,   *Frederic Farfetch.*
London.   L   The

The PROTEST of the abovesaid Foreign BILL, for Non-Acceptance.

Paris, July 3, 1764. for Crowns 150, at 31½ d. 2 Usance.

At double Usance, pay this first of Exchange to Mr Richard Rich, or Order, the Sum of One hundred and fifty Crowns, at thirty one Pence half Peny ℔ Crown, Value of Mr David Le Petre, and pass it to Accompt, as ℔ Advice.

To Mr Paul Puttoff,
London.   Frederic Farfetch.

ON the second Day of August, one thousand seven hundred and sixty four, at the Instance and Request of Mr Richard Rich of London, Merchant, I Jonas Useful, Public Notary, sworn and admitted by Royal Authority, did go to the Dwelling-House of Mr Paul Puttoff, upon whom the above Bill of Exchange is drawn; and shewed the Original unto the said Paul Puttoff, demanding his Acceptance of the same, who answered me he would not accept the said Bill, for Reasons best known to himself, of which he should inform the Drawer, Mr Frederic Farfetch: Wherefore, I the said Notary did protest, and by these Presents do solemnly protest, as well against Frederic Farfetch, as against the said Paul Puttoff, as also against all other Persons, Indorsers, and all others concerned, for all Changes, Rechanges, Damages and Interests, already suffered and sustained, or to be suffered and sustained, for want of due Acceptance of the said Bill: Thus done and protested, at my Office in London aforesaid, in Presence of *A. B.* and *C. D.* Witnesses hereunto required.

Quod attestor rogatus.

Jonas Useful, Notary-Public.

London

London, Aug. 9, 1764. for 395 *l.* Sterl. at 34 *s.* 8 *d.* Flem.
₰ *l.* Sterl. at Uſance. ———

London on   At Uſance, pay this firſt of Exchange to
Rotterdam. Jacob Vanderladen, or Order, Three hundred
Firſt Bill.   ninety-five Pounds Sterling, at thirty-four Shil-
lings eight Pence *Flem.* ₰ Pound Sterling, Value
of James Moreton Eſq; and place it, as ₰
Advice, from   Yours,

To Mr Edward Towers,
   Merchant, Rotterdam. ———   *Edward Eaton.*

London, Aug. 9, 1764. for 395 *l.* Sterl. at 34 *s.* 8 *d.* Flem.
₰ *l.* Sterling, at Uſance. ———

Second Bill.   At Uſance, pay this my ſecond of Exchange,
my firſt not paid, to Jacob Vanderladen, or Or-
der, Three hundred ninety-five Pounds Sterling,
at thirty-four and eight Pence Flem. ₰ Pound
Sterling, Value of James Moreton Eſq; and place
it, as ₰ Advice, from

To Mr Edward Towers,   Yours,
   Merchant, Rotterdam.   *Edward Eaton.*

Bruxelles, Sept. 24, 1764. for 1197 *l.* 8 *s.* 6 *d.* Sterl. 2
   Uſance. ———

Bruſſels on   At double Uſance, pay this firſt of Exchange
London.   to Mr Philip Faro, or Order, the Sum of One
Ready   thouſand one hundred ninety-ſeven Pounds, eight
changed.   Shillings ſix Pence Sterling, the Value of ditto,
and place it to Accompt, as ₰ Advice from

                Your humble Servant,
To Mr Gaſpar Elbe,
   Merchant, London.   *Bertrand Vanhove.*

Bruxelles, Sept. 24, 1764. for 1197 *l.* 8 *s.* 6 *d.* Sterl. 2
   Uſance. ———

Second Bill.   At double Uſance, pay this ſecond of Ex-
change, my firſt not paid, to Mr Philip Faro, or
Order, the Sum of One thouſand one hundred
ninety-ſeven Pounds, eight Shillings ſix pence
Sterling, the Value of ditto, and place it to Ac-
compt, as ₰ Advice from

To Mr Gaſpar Elbe,   Your humble Servant,
   Merchant, London.   *Bertrand Vanhove.*

London, April 19, 1764. for Dollars 1000 effective, at 3 Months.

London on   At three Months, pay this my first of Ex-
Alicant.   change to Mr Peter Peterary, or Order, Dol-
First Bill.   lars One thousand effective, the Value received
     of Andreas Amandretia, and pass it to Accompt,
     as ꝑ Advice.

To Mr Giles Good-   Pay as above,
pay, Merchant, in
Alicant.   *Edmund English.*

*Let the Scholar constantly draw second, and sometimes third
Bills, according to former Directions and Examples.*

RECREATION XI.

(141) ONE of the Smarts in the Accomptant's Office,
making his Addresses in an old Lady's Family,
who had five fine Daughters, she told him their Father had
made a whimsical Will, which might not soon be settled in
Chancery, and till then he must refrain his Visits. The young
Gentleman undertook to unravel the Will, which imported,
That the first four of her Girls Fortunes were together to
make 25000*l*. The four last 33000*l*. The three last, with
the first, 30000*l*. The three first, with the last, were to make
28000*l*. And the two last, and two first, 32000*l*. Now
Sir, if you can make appear what each is to have, and as you
like, seemingly, my third Daughter: Charlotte, I am sure,
will make you a good Wife, and you are welcome: What
was Miss Charlotte's Fortune?   *Answer,* 5000*l*.

(142) *B.* and *C.* together can build a Boat in 18 Days;
with the Assistance of *A.* they can do it in 11 Days: In what
time would *A.* do it by himself?   *Answer,* 28$\frac{2}{7}$ Days.

(143) *A. B.* and *C.* are three Horses, belonging to different
Men, and are employed as a Team to draw a Load of
Wheat from Hertford for 30*s*. *A.* and *B.* are deemed to
do $\frac{2}{7}$ of the Work, *A.* and *C.* $\frac{3}{8}$, and *B.* and *C.* $\frac{3}{10}$ of it.
They are to be paid proportionably; and do you know how
to divide it as it should be?

     Answer, *A.* 11*s* 3*d*.   *B.* 6*s*. 6*d*.   *C.* 12*s*. 1*d*. and a
     Share of 2*d*. more.   Divide

(144) Divide 1000 Crowns, give *A*. 129 more than *B*. and *B*. 178 fewer than *C*.   *Anfwer*, *A*. 360. *B*. 231. *C*. 409.

(145) Part 250 *l*. give *A*. 37 more than *B*. and let *C*. have 28 fewer?   *Anfwer*, *A*. 117 $\frac{1}{3}$. *B*. 80 $\frac{1}{3}$. *C*. 52 $\frac{1}{3}$.

(146) A Father divided his Fortune among his Sons, giving *A*. 7, as often as *B*. 4; to *C*. he gave as often 2, as *B*. 5; and yet the Dividend of *C*. came to 2166 *l*. $\frac{3}{4}$; what was the Value of the whole Legacy?   *Anfwer*, 17060 *l*. 4 *s*. 0 $\frac{3}{4}$ *d*.

(147) A Stationer fold Quills at 11 *s*. ℞ Thoufand, by which he cleared $\frac{3}{8}$ of the Money; but growing fcarce, raifed them to 13 *s*. 6 *d*. ℞ Thoufand; what might he clear ℞ Cent. by the latter Price?   *Anfwer*, 96 *l*. 7 *s*. 3 $\frac{3}{11}$ *d*.

(148) In what Time will the Interest of 49 *l*. 3 *s*. equal the Proceed of 19 *l*. 6 *s*. at Ufe 47 Days, at any Rate of Interest?   *Anfwer*, 18 $\frac{45}{100}$ Days.

(149) A Perfon was poffeffed of a $\frac{3}{4}$ Share of a Copper-Mine, and fold $\frac{3}{4}$ of his Interest therein, for 1710 *l*. what was the reputed Value of the whole Property at the fame Rate?   *Anfwer*, 3800 *l*.

(150) What Money, at 3 $\frac{1}{2}$ ℞ Cent. will clear 38 *l*. 10 *s*. in a Year and Quarter's Time?   *Anfwer*, 880 *l*.

(151) *X*. *Y*. *Z*. can, working together, complete a Stair-cafe in 12 Days, *Z*. is Man enough to do it alone in 24 Days, and *X*. in 34: In what time then could *Y*. get it done himfelf?   *Anfwer*, 81 $\frac{6}{10}$.

(152) What Number is that, to which, if $\frac{3}{10}$ of $\frac{18}{7}$ of $\frac{142}{213}$ be added, the Total will be 1?   *Anfwer*, $\frac{3648}{7425}$.

(153) A Father dying, left his Son a Fortune, $\frac{3}{18}$ of which he ran through in fix Months; $\frac{2}{3}$ of the Remainder held him a Twelvemonth longer, at which time he had bare 348 *l*. left: Pray what did his Father bequeath him?   *Anfwer*, 1284 *l*. 18 *s*. 5 $\frac{1}{2}$ *d*.

(154) There is a City in a certain Ifland, 708 Miles more diftant from the Tropic of Cancer, than another under the fame Meridian is from the Arctic polar Circle: What Cities are thofe; what are the Diftances of thofe Cities from the Equator, and what from each other; remembring the polar Circle is about 23 $\frac{1}{2}$ Degrees from the Pole, as is the Tropic from

from the Equator, and in this pleaſe to conſider 60 geogra-
phical Miles as a Degree?

Anſwer, Both ſtand on the ſame Spot, in Lat. 50° 54',
and anſwer pretty well to Chicheſter in Suſſex.

(135) If $\frac{3}{7}$ of $\frac{4}{5}$ of $\frac{7}{8}$ of a Ship be worth $\frac{1}{9}$ of $\frac{6}{7}$ of $\frac{11}{13}$ of the
Cargo, valued at 12000 *l.* what did both Ship and Cargo
ſtand the Owners in?

Anſwer, 15223 *l.* 8 *s.* 10 *d.* nearly.

(156) If *A.* having $\frac{7}{8}$ of $\frac{3}{4}$ of the half of a Trading Sloop
and Cargo, worth 16131 $\frac{7}{10}$ *l.* ſells his Brother *B.* $\frac{3}{5}$ of $\frac{4}{5}$ of
his Intereſt therein at prime Coſt: What did it coſt the Bro-
ther? and what did his Couſin *P.* pay at the ſame Time for
$\frac{2}{11}$ of the Remainder?

Anſwer, 9734 *l.* $\frac{127}{1100}$ *P.* paid.

(157) A Grocer would mix a Quantity of Sugar at 10 *d.*
$\oplus$ Pound, with other Sugars at 7 $\frac{1}{2}$ *d.* 5 *d.* and 4 $\frac{1}{2}$ *d.* $\oplus$
Pound, intending to make up a Commodity worth 6 *d.* $\oplus$
Pound: In what Proportions is he to take of thoſe Sugars?

Anſwer, When the Quantity is undetermined, as many
Anſwers may be produced, as there are different Ways
of linking together a larger Price and a leſs, than the
middle or mean Rate propoſed.

(158) A younger Brother received 2200 *l.* which was juſt
$\frac{5}{12}$ of his elder Brother's Fortune; and 3 and $\frac{1}{6}$ times the El-
der's Money was $\frac{1}{2}$ as much again as the Father was worth:
What was that?   *Anſwer*, 11000 *l.*

(159) It is propoſed by an elderly Perſon in Trade, deſirous
of a little Reſpite, to admit a ſober and induſtrious young Fel-
low to a Share in the Buſineſs; and, to encourage him,
offers, that if his Circumſtances will allow him to advance
100 *l.* his Pay ſhall be 40 *l.* a Year: If he ſhall be able to
put 200 *l.* into the Stock, he ſhall have 55 *l.* a Year, and if
300 *l.* he ſhall receive 70 *l.* annually: In this Propoſal, what
was allowed for his Attendance ſimply?

Anſwer, 25 *l.* a Year.

(160) Agreed for Carriage of 2 $\frac{1}{2}$ Tons of Goods, 3 Miles
wanting $\frac{1}{10}$, for $\frac{1}{2}$ of $\frac{3}{4}$ of Guinea: What was that $\oplus$ Hun-
dred for a Mile?

Anſwer, nearly $\frac{4}{5}$ of 1 *d.*

A

A FACTOR's Remittance to his Employer.

Venice, Jan. 10, 1764. for Ducats 187. 10 Banco, at 56 d. ¼ at Usance.

Venice on London. At Usance, pay this my first of Exchange to the Right Worshipful Sir William Goring, or Order, One hundred eighty-seven Ducats, ten grofs Banco, at fifty-six Pence half Peny ⅌ Ducat, Value in ourselves, and place it as ⅌ Advice.

To Nath. Gould Esq;
London. *Jones* and *Lumley.*

[*A Ducat is 24 Grofs Banco.*]

London, Octob. 12, 1764. for 700 Ps of ⅞ Mex. at 3 Months.

London on Leghorn. Three Months after Date, pay this my first of Exchange, to Mr Andrew la Garde, or Order, Seven hundred Mexico Pieces of ⅝, for the Value received of himself, and place it to Accompt, as ⅌ Advice from,

To Mr John Horfey, Merchant at Leghorn. *Lawrence Quinto.*

Sir, Lucca, Sept. 13, 1764. for 13 l. 11 s. 8 d.

Lucca on London. *Ready changed.* At Sight, pay this my only Bill of Exchange, to Simon Toftain, Merchant, or Order, the Sum of Thirteen Pounds, eleven Shillings and eight Pence Sterling, Value of Ditto, and place it to Accompt, as ⅌ Advice.

To Mr Thomas Gilder, *Pierre de la Roche.*
Banker in London.

Genoa, April 28, 1764. for Crowns 500, at 65 d. Sterl.

Genoa on London. At thirty Days Sight pay this my first of Exchange to Signior Francifco Spavini, or Order, Five hundred Crowns, Exchange at fixty five Pence ⅌ Crown, Value received of the Lords of Regency, and place it to Accompt of Mr Jacques Baudin of Lyons, as ⅌ Advice from him.

To Mr Robert French, Banker *Gervafi Orbitello.*
Lombard-ftreet, London.

Monsieur Baudin's LETTER, advising his Concurrence to the aforementioned Draught.

Sir,   Lyons, May 3, 1764.

     Brother Orbitello of Genoa, has this Day desired me to furnish him Five hundred Crowns, payable to the Resident of the States at London; I have therefore ordered him to draw for the said Sum on you, which please to honour as usual, and put it to the Accompt of

To Mr Robert French,   Your Friend and Servant,
Banker, London.   *Jacq. Baudin.*

Lisbon, Feb. 7, 1764. for 181 M. 186. Rees Exº. at 64½ *d.* ⅌ M.

Lisbon on London.   At Usance, pay this my first of Exchange to Don Pedro Olivarez, or Order, the Sum of One hundred eighty one Milrees, and one hundred eighty six Rees, at sixty four Pence half Peny ⅌ Millree, Value in Accompt, and place it to Messrs Boulet and Savary of Nismes, as ⅌ Advice from them.

To Mr Mark Gaspar, on
Tower-Hill, London.   *Bertrand Alberoni.*

A DRAUGHT on the Imployer, for Value of Goods ship'd him *per* Factor.

Sir,   St Andrews, July 15, 1764. Milrees 300, at Usance.

North Britain en Lisbon.   At Usance, pay this my first of Exchange, to Mr Elias Regnaud, or Order, Three hundred Milrees, the Value here ship'd for your Use, upon the Santa Maria of Naples, and consigned, as ⅌ Advice, from

To Signior Santilena,   Your very humble Servant,
at Lisbon.

                Melvin Gordon.

An

An Imployer's LETTER, with REMITTANCE to his Factor, in a Bill of the said Factor's Correspondent.

Mr James Dennis,

  According to your Defire, I have remitted you One thoufand Crowns for my Accompt, in your Correfpondent Aubin's Bill inclofed, payable by and to yourfelf; for which pleafe to give me Credit: I recommend the Contents of my laft, of the 2d Current to you, and reft

     Your Friend and Humble Servant,

Paris, Aug. 18, 1764.   *Eftienne Benoit.*

Paris, Aug. 18, 1764. for Crowns 1000, at 32 *d.* ℔ Crown.

The Bill.   At double Ufance, pay this my only Bill of Exchange to yourfelf, the Sum of One thoufand Crowns, Exchange at thirty-two Pence Sterling ℔ Crown, the Value received of Monfieur Eftienne Benoit, and place it, as ℔ Advice, to Accompt of

To Mr James Dennis,   *Aubin.*
 Merchant in Briftol.

The Correfpondent's LETTER of Advice.

Mr James Dennis.   Paris, Aug. 18, 1764.

Sir,

  By this Poft I have drawn on you for One thoufand Crowns at 32 *d.* payable to yourfelf, Value of Monfieur Eftienne Benoit; which, with my other Bills depending, pleafe to honour, and the timely Remittances fhall be punctually made you, by

To Mr James Dennis,   Sir,
 Merchant, Briftol.   Your very humble Servant,

            Aubin.

     M   The

The following B I L L is useful between two Persons, when an Opportunity of Drawing is expected to present, or when a Sum of Money owing is dubious.

London, Nov. 3, 1764. for 3000 M. at 2 Usance.

London on Oporto.   At double Usance, pay this my first of Exchange to myself, or Order, the Sum of Three thousand Millrees, Value in your Hands, and place it to Accompt, as ℟ Advice from

To Edward Rowe Esq; English
Consul at Oporto.   William Eaton.

If the first Bill be accepted, Eaton, upon Advice, sends a second of the same Import, indorsed to his Order, which ought to be paid by Rowe, pursuant to his Acceptance of the first; if it is not accepted, drawing in this Manner prevents all the Damages of Protest, and the Inconveniencies that would follow from other Persons being concerned therein.

A LETTER of Advice, with a BILL, to a Factor.

Mr Richard Stewart,   Norwich, Aug. 11, 176
          Yours of the 29th past received, with the inclosed Accompt; the Balance whereof is higher than expected. This Day have shipped you, by the Peterborough of Milford, James Snape Master, Thirteen Bales of Goods against the Fair, and have taken this Opportunity to enclose you a Bill on self, for my Balance; which, on Sales of said Consignment, be pleased to credit

To Mr Richard   Your Friend and Servant,
Stewart, Bristol.   Abr. Anstruther.
                                              Norwich

Norwich, Aug. 11, 1764.   142 l. 10 s.

The Bill.   At your Fair in September next, pay this my
only Bill of Exchange to yourself, One hundred
forty-two Pounds ten Shillings, out of the Pro-
ceed of Goods this Day consigned you for my
Accompt, in the Peterborough of Milford, as ⅌
Advice from

To Mr Richard   Your Friend,
Stewart, Bristol.   *Abr. Anstruther.*

RECREATION XII.

(161) A Person making his Will, gave to one Child $\frac{18}{10}$ of
his Estate, to another $\frac{11}{39}$, and when these Lega-
cies came to be paid, one turned out 540 l. 10 s. more than
the other: What did the Testator die worth?

<div align="center">Answer, 1538 l. 12 s. $11\frac{373}{711}$ d..</div>

(162) A Father devised $\frac{34}{83}$ of his Estate to one of his Sons,
and $\frac{34}{83}$ of the Residue to another, and the Surplus to his Re-
lict, for her Life; the Childrens Legacies were found to be
257 l. 3 s. 4 d. different: Pray what Money did he leave the
Widow the Use of?

<div align="center">Answer, 534 l. 2 s. 8 d. nearly.</div>

(163) What Number is that, from which, if you deduct
the $\frac{2}{25}$ of $\frac{7}{8}$, and to the Remainder add $\frac{1}{16}$ of $\frac{47}{19}$, the Sum
will be 3?   Answer, $2\frac{6692}{7000}$.

(164) A Lad having got 4000 Nuts, in his Return was
met by Mad-Tom, who took from him $\frac{5}{8}$ of $\frac{2}{3}$ of his whole
Stock: Raving-Ned light on him afterward, and forced $\frac{2}{9}$ of
$\frac{3}{5}$ of the Remainder from him: Unluckily Positive-Jack found
him, and required $\frac{7}{16}$ of $\frac{12}{16}$ of what he had left: Smiling-
Dolly was by Promise to have $\frac{3}{4}$ of a Quarter of what Nuts
he brought Home: How many then had the Boy left?

<div align="center">Answer, 575$\frac{23}{64}$.</div>

(165) Bought 100 Quarters of Malt, Meal, and Oatmeal,
together, for 142 l. For every 5 Bushels of Malt I had 3 of
Meal, and for every 8 of Meal I had 7 of Oatmeal: Pray

<div align="center">M 2   what</div>

what did thefe coft me feverally a Bufhel, the Malt being half as dear again as the Meal, and the Meal double the Price of the Oatmeal?

Anfwer, Malt 4 s. 9 $\frac{720}{1512}$ d. Meal 3 s. 2 $\frac{480}{1512}$ d. Oatmeal 1 s. 7 $\frac{240}{1512}$ d.

(166) There is a Number, which, if divided by $\frac{16}{3}$ of $\frac{3}{16}$) will quote $\frac{361}{37}$: Pray what is the Square of that Number? *Anfwer*, 95 $\frac{266}{1369}$.

(167) There is a Number, which, if multiplied by $\frac{3}{4}$ of $\frac{7}{8}$ of $2\frac{3}{4}$, will produce no more than 1: What is the Cube of that Number? *Anfwer*, $\frac{995328}{4108797}$.

(168) What Number is that, to which, if you add $\frac{1}{11}$ of 12, more $\frac{1}{19}$ of 27, and from the Total fubtract $\frac{2}{3}$ of $7\frac{1}{2}$, lefs $\frac{2}{8}$ of $1\frac{1}{4}$, the Remainder fhall be 8? *Anfwer*, 6 $\frac{3911}{5016}$.

(169) In raifing a joint Stock of 400 l. *A.* advanced $\frac{4}{13}$; *B.* $\frac{11}{11}$ of $\frac{3}{7}$; *C.* $\frac{1}{8}$ more, the Difference between *A*'s Adventure and *B*'s, and *D.* the reft of the Money: What did every one fubfcribe? *Anfwer*, *A.* 123 $\frac{523}{6864}$ l. *B.* 163 $\frac{4368}{6864}$ l. *C.* 107 $\frac{1551}{6864}$ l. *D.* 6 $\frac{426}{6864}$ l.

(170) A Perfon dying, left his Wife with Child, and making his Will, ordered, that if fhe went with a Son, $\frac{2}{3}$ of the Eftate fhould belong to him, and the Remainder to his Mother; and if fhe went with a Daughter, he appointed the Mother $\frac{2}{3}$ and the Girl $\frac{1}{3}$: But it happened that fhe was delivered both of a Son and Daughter; by which fhe loft in Equity 2000 l. more than if it had been only a Girl: What would have been her Dowry had fhe only had a Son? *Anfwer*, 1750 l.

(171) In Diftrefs at Sea, they threw out 17 Hogfheads of Sugar, worth 34 l. per Hhd. the worth of which came up to but $\frac{4}{7}$ of the Indigo they caft overboard; befides which, they threw out 13 Iron Guns, worth 18 l. 10 s. apiece; the Value of all thefe amounted to $\frac{3}{7}$ of $\frac{9}{13}$ of that of the Ship and Loading: Pray what of the Value came into Port? *Anfwer*, 4337 l. 15 s. 6 $\frac{2}{3}$ d.

(172) *A.* In a Scuffle feized on $\frac{2}{3}$ of a Parcel of Sugar Plumbs, *B.* catched $\frac{3}{8}$ of it out of his Hands, and *C.* laid hold on $\frac{1}{16}$ more. *D.* ran off with all *A.* had left, except $\frac{1}{7}$ of it, which *E.* afterwards fecured flyly for himfelf. Then

Then A. and C. jointly set upon B. who, in the Conflict, shed $\frac{1}{2}$ he had, which was equally picked up by E. and D. who lay perdue. B. then kicked down C's Hat, and to work they all went anew for what it contained, of which A. got $\frac{1}{4}$, B. $\frac{1}{3}$, D. $\frac{2}{7}$, and C. and E. equal Shares of what was left of that Stock. D. then struck $\frac{3}{4}$ of what A. and B. last acquired, out of their Hands. They with Difficulty recovered $\frac{5}{8}$ of it in equal Shares again, but the other three carried off $\frac{1}{8}$ apiece of the same. Upon this they call a Truce, and agree, that the $\frac{2}{3}$ of the whole left by A. at first, should be equally divided among them: How much of the Prize, after this Distribution, remained with each of the Competitors?

The young Accomptant, in solving this Proposition, will not be sorry to see the whole Process before him, whence he may reap some Information, and receive Encouragement to carry it through.

A. Having laid hold on $\frac{2}{3}$ of the whole Parcel, B. caught $\frac{3}{8}$ of it from him, that is, $\frac{1}{4}$ of the whole. C. at the same Time, seized on $\frac{3}{10}$ of the same, answering also to $\frac{1}{5}$ of the whole. D. ran off with what A. had left, save $\frac{1}{7}$ of the same. A. originally possessed of $\frac{2}{3}$, after B. and C. had served themselves of $\frac{5}{20}$ and $\frac{4}{20}$, had only $\frac{13}{60}$ left, of which $\frac{1}{7}$ was carried off by E. This $\frac{1}{7}$, or $\frac{13}{420}$, taken from his $\frac{13}{60}$, leaves $\frac{78}{420}$ for D's Part of the Smuss: And thus ends the first Heat.

B. Having gotten $\frac{1}{4}$ as before, is attacked by A. and C. together, who make him drop $\frac{1}{2}$ of them, or $\frac{1}{8}$. This was equally picked up by E. and D. that is, by each $\frac{1}{16}$. B. still retaining $\frac{1}{8}$ himself: And thus ended their second Heat.

B. Then kicked over C's Hat, wherein was $\frac{1}{5}$ of the Parcel procured at first; of this A. got $\frac{1}{4}$, B. $\frac{1}{3}$, D. $\frac{2}{7}$, together $\frac{73}{420}$, leaving to C. and E. equal Shares of the Remainder, $\frac{11}{420}$, that is, to each $\frac{11}{840}$; and so ended their third Heat.

D. Then knocked down $\frac{3}{4}$ of what A. and B. had last obtained, viz. $\frac{7}{80}$, of which $\frac{3}{4}$ is $\frac{7}{80}$, and of which they are said to recover $\frac{5}{8}$ between them, or $\frac{7}{2 \cdot 80}$ ℔ Man; and C. D. and E. got each $\frac{1}{8}$ of $\frac{7}{80}$, or $\frac{7}{640}$ apiece more. The remaining $\frac{1}{4}$ saved by A. and B. in this part of the Conflict, viz. $\frac{1}{4}$ of $\frac{1}{20}$, and B. $\frac{1}{4}$ of $\frac{1}{15}$, was severally retained by each of them; and thus concluded the fourth Heat.

The

The original $\frac{1}{2}$ at first miffed of by *A.* is agreed to be equally divided among them, that is, $\frac{1}{11}$ to each Competitor. The Items, when collected, belonging to each, will affign the Part they feverally had of the Prize, which will turn out as follows: *A.* $\frac{2863}{20880}$, *B.* $\frac{6335}{20880}$, *C.* $\frac{2438}{20880}$, *D.* $\frac{10294}{20880}$, *E.* $\frac{4950}{20880}$, together making the whole Quantity, or 1.

(173) A merry young Fellow, in a fmall Time, got the better of $\frac{1}{4}$ of his Fortune; by Advice of his Friends, he then gave 2200 *l.* for an Exempt's Place in the Guards; his Profufion continued till he had no more than 880 Guineas left, which he found by Computation was juft $\frac{3}{20}$ Part of his Money, after the Commiffion was bought: Pray what was his Fortune at firft?   *Anfwer,* 10450 *l.*

(174) A Tobacconift has by him 120 *lb.* of fine Oroonoko Tobacco, worth 2 *s.* 6 *d.* a Pound; to this he would put as much York-River ditto, at 20 *d.* with other inferior Tobaccos at 18 *d.* and 15 *d.* a Pound, as will make up a Mixture anfwerable to 2 *s.* a Pound: What will this Parcel weigh?   *Anfwer,* 231$\frac{11}{13}$ *lb.* nearly.

LETTERS of CREDIT.

Sir,   London, May 11, 1764.

PLEASE to furnifh the Bearer hereof, Mr Matthew Meanwell, the Sum of Twenty Pounds, as he fhall require the fame, and place it to my Accompt; for which, this Letter of Credit, with his Receipt, fhall be your fufficient Voucher and Warrant, giving, upon Payment, a Line or two of Advice to

To Mr Nich. Neverfail,   Your real Friend,
Merchant in Hull.   *Samuel Standfaft.*

The Receipt.   Received June 2, 1764. of Mr Nicholas Neverfail, the Sum of Twenty Pounds, by Virtue of Mr Samuel Standfaft's Letter of Credit, of May 11 laft for the faid Sum,

20 *l.*   ℞ *Matthew Meanwell.*
                                        Sir,

Sir, London, Jan. 17, 1764.

Please to furnish the Bearer, Mr Jacques Bernaudin, the Sum of Three hundred Pounds Sterling, Exchange at 33 *s.* 4 *d.* Flem ℔ Pound Sterling, to employ for my Accompt; for which Sum, or any Part thereof, take his Bills on me, as ℔ Advice from

To Mr Claude Crespigny,   Your humble Servant,
Merchant in Antwerp.   *Kendrick Keeptouch.*

Ex°. 300 *l.* Sterling, Antwerp, March 10, 1764.

The Bill.   At Sight, pay this my only Bill of Exchange, to Mr Claude Crespigny, or Order, the Sum of Three hundred Pounds Sterling, the Value here received of him for your Use, and place it, as ℔ Advice, to the Accompt of

To the Worshipful Kendrick
Keeptouch, Esq; in Mark-   Your humble Servant,
Lane, London.   *Jac. Bernaudin.*

An Indorsement or Assignation of the said BILL to another.

Pay Israel Falgate, or Order, Value in Accompt.

            Claude Crespigny.

This Bill, drawn upon Receipt of the Sum mentioned, by the Factor Bernaudin, upon the Imployer Keeptouch, and indorsed by the Presenter Crespigny to Falgate, for Reasons between themselves, is payable, like other indorsed Notes, to any Bearer, *who shall Witness the Payment, by writing his Name under that of the* Indorser: *Not but Merchants, to prevent Impositions by Forgeries, require Foreign Bills, in dubious Cases, to be signed by some substantial Person in London, by way of Attestation that the Bill presented is genuine; upon Credit whereof, they will venture to accept or pay it.*

            Sir,

Sir, Dublin, Jan. 1, 1764.

The Bearer, Mr Richard Avery, will have Occasion for Fifty Pounds, which Sum I desire you to furnish him, and take his Bill for said Sum, or any Part thereof, on the Honourable Quintilian Quicksight Esq; I am,

To Henry Hoare Esq;   Sir,
Fleet-street, London.   Your most humble Servant,
                           Roger Renolds.

Sir,   Ex°. 56 *l.* London, Feb. 14, 1764.

The Bill.   At one and twenty Days Sight, pay this my first of Exchange to Henry Hoare Esq; or Order, the Sum of Fifty-six Pounds, the Value received of ditto for your Use, as ₱ Advice from,

To the Honourable Quintilian   Sir,
Quicksight Esq; Dublin.   Your humble Servant,
                           Richard Avery.

In the Bill the then current Exchange, suppose 12 l. ₱ Cent. is to be added to the Sum ordered in the Letter of Credit, which send indorsed to Renolds with these Words:

Pay Mr Roger Renolds, or Order, Value in Accompt.
                           Henry Hoare.

And if Renolds should have Occasion to indorse it to some other Person, thus:

Pay Thomas White Esq; or Order, Value of ditto.
                           Roger Renolds.

The last Possessor will be thereby intitled to the Contents from Quicksight, when due. This Affair might also have been transacted, without Indorsement, in manner following:

Sir,   Ex°. 56 *l.* London, Feb. 17, 1764.

At one and twenty Days Sight, pay this my second of Exchange, my first not paid, to Roger Renolds Esq; or Order, the Sum of Fifty-six Pounds, the Value received for your Use of Henry Hoare Esq; as ₱ Advice from

To the Honourable Quintilian   Your humble Servant,
Quicksight Esq; Dublin.   *Richard Avery.*
                           A Gene-

A General LETTER of CREDIT, to furnish a Person according to his Occasions.

Sir,   Paris, March 2, 1764.

The Bearer, Mr Stephen Monteage, one of his Britannic Majesty's Messengers, being ordered to Constantinople, will have Occasion for Money to defray his Charges, &c. Please to furnish him with the Sums he shall require at said Place, taking his Receipts; and your Draughts for the Value shall receive due Honour from

A Monsieur, Monsieur   Your humble Servant,
Salonnier, Banquier
a Vienne.   *Mich. Tossier.*

The Bill consequent to this Letter of Credit, drawn by Salonnier at Vienna, on Tossier at Paris, for the Sum furnished Monteage.

Sir,

Vienna, April 3, 1764. for 720 Flo. at Liv. 3 . 4 . 0

At four Days Sight, pay this my only Bill of Exchange, to Sieur Louis Dugarde, or Order, the Sum of Seven hundred and twenty Florins, Exchange at three Livres four Sol. ⅌ Florin, the Value paid at Constantinople to Monsieur Stephen Monteage, pursuant to your Letter of Credit of the 2d of March last, and as by Advice from the said Monteage.

A Monsieur, Monsieur
Tossier, Banquier a   *Andrew Salonnier.*
Paris.

RECREATION XIII.

(175) A Gay young Fellow, had 1820*l.* left him by an old Uncle, to whose Memory he expended 3 ⅌ *Cent.* of his whole Fortune, in a sumptuous Funeral and Monument; 9 ⅌ *Cent.* of the Remainder, he made a Present of to his Cousins, forgotten, for his sake, by the old Man; with ¾ of what was left, he bought a fine Seat; with ⅛ of the Residue, a Stud of Horses; he squandered away 550*l.* upon one Mistress; and after he had lived at the Rate of 2000*l.* a
N   Year,

Year, for 19 Months together, he hath both ruined his Health, and impaired his Fortune: Pray, at his Death, what was there left for his Sister, who was his Heir at Law?

Answer, 6324 *l*. 1 *s*. nearly.

(176) A Father, ignorant in Numbers, ordered 500 *l*. to be divided among his five Sons, thus: Give *A*. says he, $\frac{1}{3}$, *B*. $\frac{1}{4}$, *C*. $\frac{1}{5}$, *D*. $\frac{1}{6}$, and *E*. $\frac{1}{7}$: Part this equitably among them, according to the Father's Intention.

Answer, *A*. $152\frac{1392}{2754}$ *l*. *B*. $114\frac{2044}{2754}$ *l*. *C*. $\frac{2386}{2754}$ *l*. *D*. $76\frac{696}{2754}$ *l*. *E*. $65\frac{990}{2754}$ *l*.

(177) Three Persons purchase together a West-India Sloop, towards the Payment whereof, *A*. advanced $\frac{1}{8}$, *B*. $\frac{4}{7}$, and *C*. 140 *l*. How much paid *A*. and *B*. and what Part of the Vessel had *C*?

Answer, *A*. and *B*. together paid $572\frac{8}{11}$ *l*.

(178) *A*. and *B*. clear by an Adventure at Sea 50 Guineas, with which they agreed to buy a Horse and Chaise; whereof they were to have the Use, in Proportion to the Sums adventured, which was found to be *A*. 10. to *B*. 7. they cleared 45 ⅌ *Cent*. What Money then did each send abroad?

Answer, *A*. 68 *l*. 12 *s*. $6\frac{10}{17}d$. *B*. 48 *l*. $9\frac{7}{17}d$.

(179) *A*. and *B*. join their Stocks, and vest them in Brandies. *A*'s Stock was 19 *l*. 19 *s*. 8 *d*. more than that of *B*. Now by selling out their Commodity at 55 *s*. ⅌ Anker, *A*. cleared 74 *l*. 11 *s*. and *B* just 50 Guineas. The Quantity of Brandy dealt for is required, and the Gain upon the Anker?

Answer, 88 Ankers, whereon cleared 1 *l*. 8 *s*. $10\frac{1}{4}d$. ⅌ Anker.

(180) Suppose the Sea-Allowance for the common Men to be 5 *lb*. of Beef, and 3 *lb*. of Biscuit a Day, for a Mess of four People, and that the Price of the first, barrelled, be to the King $2\frac{1}{4}d$. a *lb*. and of the second $1\frac{1}{2}d$.; such was a Ship's Company, that their Flesh cost the Government 12 *l*. 12 *s*. ⅌ Day: Pray what did it pay for their Bread ⅌ Week?

Answer, 35 *l*. 5 *s*. $7\frac{2}{10}d$.

(181) Hetty told her Brother George, that though her Fortune on her Marriage took 19312 *l*. out of the Family, it was but $\frac{3}{4}$ of two Years Rent, Heaven be praised, of his yearly Income: Pray what was that?

Answer, 16093 *l*. 6 *s*. 8 *d*. a Year.

In

(182) In an Article of Trade, *A.* gains 14 *s.* 6 *d.* and his Adventure was 35 *s.* more than *B*'s, whose Share of Profit is but 8 *s.* 6 *d.* What are the Particulars of their Stock?

Answer, A. 4 *l.* 4 *s.* 7 *d.*   *B.* 2 *l.* 9 *s.* 7 *d.*

(183) *A.* has Currans worth 4 *d.* a Pound, but in Truck charges 6 *d.* and also requires ½ of that in ready Money. *B.* has Candles worth 6 *s.* 8 *d.* the Dozen, and he in Barter, honest Man, charges but 7 *s.* Should these Persons deal together for the Value of 20 *l.* how much will *A.* have got of *B*?

Answer, 6 *l.* 3 *s.* 9 5/7 *d.*   That is to say,

A. lets *B.* have Currants to the Value of 20 *l.* which stood him in but ⅔ of the Money, or 13 *l.* 6 *s.* 8 *d.* In Return, *B.* gives him in Money 10 *l.* and to the Value of 10 *l.* in Goods, which Goods cost him 9 *l.* 10 *s.* 5 5/7 *d.* The Difference in Account is as above to the Advantage of *A.*

(184) Three Persons entered joint Trade, to which *A.* contributed 210 *l. B.* 312 *l.* they clear 140 *l.* whereof 37 *l.* 10 *s.* belongs of right to *C.* That Person's Stock, and the several Gains of the other two, are required?

Answer, C. Stock, 190 *l.* 19 *s.* 6 *d.*   *A.* Gained 41 *l.* 4 *s.* 8 ½ *d.*

(185) Four Figures of *Nine* may be so placed and disposed of, as to denote and read for 100, neither more or less: Pray how is that to be done?

Answer, 99 9/9.

(186) *A.* lets *B.* have a Hogshead of Sugar, of 18 Hundred Weight, worth 31 *s.* for 42 *s.* the Hundred, ⅓ of which he is to pay in Cash. *B.* hath Paper worth 14 *s.* the Ream, which it is agreed shall bear no more than 15 *s.* 6 *d.* and at that Rate truck for the rest: How stood the Account?

Answer, 7 *l.* 9 *s.* 2 ⅔ *d.* in *A*'s Favour.

(187) In the Partition of Lands in an American Settlement, *A.* had 757 Acres allotted to him, *B.* had 2104 Acres, *C,* 16410, *D.* 12881, *E.* 11008, *F.* 9813, *H.* 13800, and *J.* 8818 Acres: Now, how many Acres did the Settlement contain, since the Allotments made above want 416 Acres of ⅓ of the Whole?

Answer, 380035 Acres.

N 2   GENE-

GENERAL DIRECTIONS for Penning LETTERS of BUSINESS.

A Tradesman's Letters should be plain, concise, and to the Purpose; free from quaint or studied Expressions; always pertinent, and conceived in so clear Terms, as may neither give his Reader Hesitation or Doubt. And, as there ought to be nothing obscure or superfluous in them, so ought they to have no affected Abbreviations; for these will often make them ambiguous, or too generally expressed.

All Orders, Commissions, and material Circumstances of Trade, are to be plainly and explicitly delivered; nothing should be presumed, understood, or implied. Your Correspondent is to be expresly told, what you would have done on his Part, and what he may depend on on yours. There should be no Possibility of a Disappointment left, through his not being fully informed of your Intentions: For, when Orders are darkly given, they are doubtfully observed; and a Mistake in Commerce must always be of Consequence.

Nor ought the Correspondent, on the Receipt of Letters, to be less punctual in answering every Article therein refered to him; to each Particular whereof, he is to reply distinctly and directly. Nothing must be omitted by him, or left in Suspence, lest the Correspondence should suffer for want of proper Intelligence.

The Stile fit for Letters should be short, familiar, neat, and significant; like that of Conversation. The Trader should converse with his Correspondent, by Letter, just as he would do, was he to meet him Personally upon the Exchange; and whatever he would say Face to Face, that is proper to be written on any Point of Business.

A Country Chapman's ORDER for Goods.

Mr Nicholas Candy,   Chester, May 25, 1764.

HAving completed my seven Years Service with Mr Lawrence Dealwell, your old Chapman, I have now ventured into the World, and taken a Shop in the same
Town.

Town. I would defire you to fend me by the next Return, half a Butt of Currans; 5 Barrels of Raifins of the Sun; 8 Frails of Malaga; Sugars at 3 *d*. 4 *d*. and 5 *d*. ℔ Pound, each 4 *Cwt*. Cloves, Mace, Nutmegs, Cinnamon, each 3 *lb*. ½ *Cwt*. of Pepper; an *Cwt*. of Pymento; 16 Sugar Loaves of various Sorts; 4 *Cwt*. of Treacle; 5 *Cwt*. of Prunes; 2 Barrels of Figs; ½ *Cwt*. of Ginger. Draw your Bill upon me for half the Value, it fhall be paid at Sight, the reft at three or four Months: So that I expect a Price according. For being a young Man, if I cannot buy and fell my Goods as low as others, I muft expect no Trade. As you deal with me in this, you fhall hear more frequently from

<div align="right">

Your loving Friend,

Thomas Hopeful.

</div>

The Apprentice's ANSWER, his Mafter being Sick, or out of the Way.

Mr Thomas Hopeful,

MY Mafter's Indifpofition confining him to his Bed, renders him unfit to write an Anfwer to yours of the 25th of May laft; however, he has ordered me to let you know, that the Confidence you have repofed in him he takes very kindly; and affures you, that he will ufe you fo well, and go fo low, that you fhall be very well fatisfied. I have taken Care to put up as choice Goods as any are in Town, and fent them by Lawrence Stager the Carrier. The particular Quantity and Prices, I have in a Bill of Parcels hereunto annexed; and, at your Defire, have drawn on you for ½ the Value, payable to Mr Charles Dean, or Order. For the Remainder, my Mafter would not have you ftraighten yourfelf for Time; and hopes he fhall have your farther Orders, as you find he deals with you in this; which is all that offers at prefent from

<div align="right">

Your humble Servant,

Ready Writer;

Servant to Mr Nich. Candy.

</div>

London, June 11, 1764.

<div align="right">

The

</div>

The Apprentice's LETTER, advising the said REMITTANCE to another of his Master's Correspondents.

Mr Charles Dean,
    Sir,   London, June 11, 1764.

MY Master has kept his Bed this Fortnight with the Gout, but is at present better. He orders me to acquaint you, that having an Opportunity of paying some Part of your Balance, he has inclosed remitted you a Bill for Sixty-five Pounds fourteen Shillings and one Peny, on Mr Thomas Hopeful, your Townsman, to be paid at Sight. He is beginning the World, and my Master being partly a Stranger to him, desires, when you write, to advise something of his Character and Circumstances. Please to give a Line upon Receipt of the Bill, and as Opportunity presents you may depend upon the rest. This at present, with the Family's Service, is all from,

                            Sir,

                            Your humble Servant,

P. S. My Master desires to be informed, what the Assignees have   *Ready Writer*. done in Mr Chapman's Affair; and whether Mr Indolent's Certificate will be allowed.

The BILL inclosed.

Sir,   London, June 11, 1764. for 65 *l.* 14 *s.* 1 *d.*

At Sight, pay to Mr Charles Dean, or Bearer, the Sum of Sixty-five Pounds, fourteen Shillings and a Peny, the Value here delivered in Goods to Lawrence Stager, for your Use, and place it to Accompt of my Master Nicholas Candy, as ₧ Advice from

To Mr Thomas Hopeful,   Your humble Servant,
  Grocer, Chester.   *Ready Writer*.

    [*The Bill of Parcels upon the preceding Letter follows.*]

                               Sold

Sold to Mr Thomas Hopeful of Chester, June 11, 1764.

	wt. Gr. Cwt. gr. lb.	Tr.	Nt. Cwt. gr. lb.	at	d.	℔ lb.
½ Butt of Currans	9 . 0 . 0	140	7 . 3 . 7	at	4	℔ lb.
5 Barrels of Raisins of the Sun	15 . 0 . 0	180	13 . 1 . 16		3¼	
8 Frails of Malaga Raisins	4 . 0 . 0	36	3 . 2 . 20		2½	
2 Barrels of Sugar	4 . 1 . 0	28	4 . 0 . 0		3	
Ditto	4 . 1 . 0	28	4 . 1 . 0		4	
Ditto	4 . 1 . 0	28	4 . 1 . 0		5	
Ditto	3 . 1 . 5	33	4 . 1 . 0		9	
Ditto	4 . 1 . 11	39	4 . 1 . 0		8	

		at	d.	℔ lb.
3 Pound of Cloves		at 7	4 . 0	℔ lb.
¾ lb. of Mace			13 . 0	
Ditto Cinnamon			6 . 0	
Ditto Nutmegs			7 . 0	

	lb.		
½ Cwt. of Pepper		3 . 3½	
1 Cwt. of Pimento		1 . 5	

	wt. 32¼ lb.		
4 Sugar-Loaves	wt. 32¼	0 . 0	
Ditto	36	0 . 9	
Ditto	27½	0 . 9½	
Ditto	22	0 . 10½	

		d.	℔ Cwt.
4 Cwt. of Treacle		13 . 0	℔ Cwt.
5 Cwt. of Prunes		13 . 0	
2 Barrels of Figs, wt. Gr. 1¼ Cwt. Tr. 32 lb. Nt. 1¼ Cwt. 24 lb.		29 . 2	
½ Cwt. of Ginger		0 . 7½	℔ lb.

l. 131 . 8 . 3

Another Chapman's ORDER for Goods.

Exon, June 16, 1764.

Mr Nicholas Allom and Comp.

THIS is to desire you to send ℔ the next Vessel bound for Exeter, the Goods following, *viz.* Galls, 3 Bags; Indigo, 5 Barrels; Allom, 17 *Cwt.* Logwood, ½ a Ton; Madder, 14 *Cwt.* Copperas, 3½ Tons; Bahia Brazil, 4 *Cwt.* Bourdeaux Cream of Tartar, 6½ *Cwt.* West-India Fustic, 5½ Ton; Red Sanders, 6½ *Cwt.* Valona Caps ground, 9½ *Cwt.* For the Balance of my last Accompt, being 295 *l.* 14 *s.* 9 *d.* I have here inclosed sent you a Bill of Exchange, at 12 Days Sight, on Mr Lawrence Gemroy, Merchant in London, to whom I have given Advice this Day. Set the Prices as low as you can, and when you expect your Money for this Parcel, draw your Bills upon me, they shall receive due Honour from

Your loving Friend,

Zach. Careful.

The BILL inclosed.

Sir,　　　Ex°. 295 *l.* 14 *s.* 9 *d.*　　Exon, June 16, 1764.

At twelve Days Sight, pay Mr Nicholas Allom, or Order, the Sum of Two hundred ninety-five Pounds fourteen Shillings and nine Pence, and place it to Accompt, as ℔ Advice from

To Mr Lawrence Gemroy,　　　　　Yours,
　Merchant in London.

Zach. Careful.

A LETTER

A LETTER of ADVICE upon the before-mentioned Draught to Mr Lawrence Gemroy.

Sir,

YOURS of the 20th past came to Hand the Day the Vessel sailed with your Goods on board; I shall however, take the first Opportunity to send the Stuffs mentioned in your last Order: Mean time, have this Post drawn on you for 295 *l*. 14 *s*. 9 *d*. at 12 Days Sight, to Mr Nicholas Allom, or Order, which please to honour as usual, to oblige,

Sir,

Your affectionate Kinsman,

and humble Servant,

Exon, June 16, 1764.   *Zach. Careful.*

An Apprentice's ANSWER to the foregoing LETTER from Mr Zach. Careful.

Sir,   London, June 24, 1764.

MY Master received yours of the 16th Instant, with the Bill of Exchange inclosed, which is now accepted. The Parcel of Goods, wrote last for, I have this Day shiped on board the Coaster of Exon, John Miller Master, being marked and numbered as ℔ Margin *. The Bill of Lading, and the Bill of Parcels, are both annexed. My Master and Partner are now out of Town; for that Reason, I have taken all possible Care to please you in both Goods and Prices. What you have further Occasion for in our Way, be pleased to signify your Order, and it shall faithfully and diligently be performed by, Sir,

Your humble Servant,

Ferdinando Failnone,

Servant to Mr Nich. Allom and Comp.

* [*These Numeros and Marks are to be set here as ℔ Margin of the subsequent Bill of Lading.*]

O   The

The BILL of PARCELS on the preceding LETTER.

Sold to Mr Zachary Careful, June 24, 1764.

	Cwt. gr. lb.	lb.	Cwt. gr. lb.	l. s. d.	
3 Bags of Galls—wt. Gr.	9 . 2 . 27	Tr. 36	Nt. 9 . 1 . 19 at	3 . 5 . 0	⅌ Cwt. l.
5 Barrels of Indigo	15 . 2 . 19	72 .	15 . 0 . 3	9 . 7 . 0	
17 Cwt. of Allom				0 . 12 . 0	
¼ Ton of Logwood				4 . 7 . 0	⅌ Ton.
14 Cwt. of Madder				2 . 18 . 6	⅌ Cwt.
3½ Ton of Copperas				8 . 0 . 0	⅌ Ton.
4 Cwt. of Bahia Brazil				2 . 0 . 0	⅌ Cwt.
6¼ Cwt. of Bourdeaux Cream of Tartar				2 . 14 . 0	
5½ Ton of West-India Fustic				0 . 14 . 3	
6¼ Cwt. of Red Sanders				2 . 0 . 0	
9½ Cwt. of Valona Caps, ground				0 . 11 . 6	

l. 374 . 16 . 6

The BILL of LADING.

SHIPED, by the Grace of God, in good Order, and well Conditioned, by [Mr Nich. Allom and Company,] in and upon the good Ship, called the [Coaster of Exeter] whereof is Master, under God, for this present Voyage, [John Miller,] and riding at Anchor in [the River of Thames] and by God's Grace bound for [Exeter.] To say, [eleven Parcels of several Sorts of Goods, ———] being marked and numbered as in the Margin, and are to be delivered in like

Nº 1 to 11.

like good Order and well Conditioned, at the aforesaid Port of [Exeter] (the Danger of the Seas only excepted) unto [Zach. Careful] or to his Assigns, he or they paying for Freight of the said Goods, [sixteen Shillings four Pence] ℔ *Ton*, with Primage and Average accustomed: In Witness whereof, the Master or Purser of the said Ship has affirmed to * three Bills of Lading, all of this Tenor and Date, one of which being accomplished, the other two stand void. And so God send the good Ship to her desired Port in Safety. *Amen.*

Dated in [London, June the 24th, 1764.]

The Contents and Quality unknown,
John Miller.

The BILL of ENTRY at the Custom-House, June 24, 1764.

In the Coaster of Exon, John Miller; for Exon, Nich. Allom and Company.

NINE Hundred, one Quarter, and nineteen Pounds of Galls.
Fifteen Hundred and three Pounds of Indigo.
Seventeen Hundred of Allom, &c. [*The Items as ℔ foregoing Bill of Parcels here to be transcribed verbatim.*]

A Third ORDER from the Country for Goods.

Worcester, July 24, 1764.

Mr. Nehemiah Holland,

I Am sorry you should meet with a Disappointment in the Return of Money, which I ordered Nich. Careless to pay you, when he was in London last Week: The first Opportunity that offers, I shall take Care to remit you a Bill, or if you have any Opportunity draw your Bill on me, it shall be paid at Sight. Be pleased to

* *The three Bills of Lading mentioned, are disposed of in this Manner; one remains with the Person who shiped the Goods; one is kept by the Master of the Ship; and the third is sent to the Person who is to receive them.*

O 2

to fend me by the Carrier, the next Return, 3 Ps. of Dow-
las; Hollands, at 2 s. 2 d.   2 s. 8 d.   3 s. 2 d.   3 s. 9 d.
each 2 Ps. and 3 Ps. of Bag Holland, at 4 s. 8 d. five Ps.
of Cambrick, from 3 l. 10 s. to 5 l. 3 Ps. of Checks, 10 Ps.
of blue Hertfords, 6 Ps. of Ghentings, 4 Ps. of Muflins,
from 4 l. to 8 l. Send the lowest Price, and the Time of
Payment: I fhall be punctual, being

<div align="right">
Your loving Friend,

Samuel Longell.
</div>

A Servant's ANSWER.

Mr Samuel Longell,   London, Aug. 10, 1764.

YOURS of the 24th of July laft was received. I have,
℔ John Surly, Worcefter Carrier, fent you the Goods
wrote for in your laft; the Bill of Parcels have hereunto
annexed. My Mafter's Affairs calling him to Briftol, I have
done my utmoft to content you, both in Goods and Prices;
being of Opinion you never had better Goods, or a better
Pennyworth. For what remains on the old Accompt, an
Opportunity will offer to draw a Bill on you next Week.
What you have Occafion for farther, fignify your Order, it
fhall be carefully followed; and as to Time of Payment, my
Mafter will be as reafonable as any Man. I add no more at
prefent, but that I am,

<div align="right">
Your humble Servant,

Thomas Meafurewell, Servant to

Nehemiah Holland.
</div>

The BILL mentioned to be drawn at Oppor-
tunity.

<div align="center">
58 l. 12 s. 6 d. London, Aug. 19, 1764.
</div>

Sir,

Pay Mrs Charity Somerfield, or Order, the Sum of Fifty-
eight Pounds, twelve Shillings, fix Pence, eight Days after
Date, Value of Capt. Edward Somerfield, and place it to Ac-
compt of my Mafter Nehemiah Holland, as ℔ Advice from

To Mr Samuel Longell,   Your very humble Servant,
Draper in Worcefter.   *Tho. Meafurewell.*

<div align="right">
The
</div>

The BILL of PARCELS.

Sold to Mr Samuel Longell, Aug. 11, 1764.

		Ells.		*s.*	*d.*	
3 Ps. of Dowlas	Qts	84½	at 1	.	1½	⅌ Ell
2 Ps. of Holland		38		2	. 2	
Ditto		38		2	. 8	
Ditto		39½		3	. 2	
Ditto		37½		3	. 9	
Ditto		77½		4	. 8	

				s.	*d.*	
3 Ps. of Bag Holland	Qt.	8		11	. 6	⅌ Yard
1 Ps. of Cambrick		8		12	. 0	
Ditto		8		13	. 6	
Ditto		8		16	. 6	
Ditto		8		0	. 6¼	⅌ Ps.
Ditto		247		0	. 6¼	
10 Ps. of Hertfords		45		35	. 0	⅌ Ps.

		Yds.		*s.*	*d.*	
3 Ps. of Checks	Qt.	8	at 1	.	10½	⅌ Yard
6 Ps. of Ghenting, *viz.*						
Nᵒ 1.		8½		1	. 11	
2.		8¾		2	. 0	
3.		9¼		2	. 3	
4.		8½		2	. 5	
5.		8		2	. 6	
6.		20		2	. 6	
1 Ps. of Muslin		20½		4	. 0	
Ditto		21¼		5	. 6	
Ditto		20		6	. 10	
Ditto				8	. 0	

RECREATION XIV.

(188) *A.* and *B.* in Partnership equally divide the Gain; *A's* Money, which was 84*l.* 12*s.* 6*d.* lay for nineteen Months, and *B's* for no more than 7: The Adventure of the latter is fought?

Answer, 229*l.* 13*s.* 11$\frac{1}{7}$*d.*

(189) In 117 times 406 Pieces of Coin, worth 3*s.* 8$\frac{2}{3}$*d.* a Piece, how many Reas at 20 for 3*d.* English?

Answer, 14145040.

(190) *A.* has Kerseys at 4*l.* 5*s.* a Piece, ready Money; in Barter they are charged by him at 5*l.* 6*s.* each, and $\frac{1}{2}$ of that required down. *B.* has Flax at 3*d.* a Pound; how ought he to rate it in Truck, not to be hurt by the Extortion of *A?* *Answer,* 5$\frac{1}{2}$*d.* $\frac{114}{215}$

In all Solutions of Questions in Truck, the intrinsick Value of the Thing received, ought to tally with the like Value of the Thing delivered, where they deal upon the Par: If there be any Difference, some one of the Parties has the Advantage of the other by the Value of that Difference.

(192) Lent 109 Guineas, at 4 ⅌ *Cent.* which by the 18th of Aug. 1740, was raised, by the Interest, to as many Moidores, bating 2*s.* 6*d.* Pray on what Day did the Bond bear Date? *Answer,* July 7, 1733.

(193) Put out 384*l.* to Interest, and in 8$\frac{1}{4}$ Years there were 542*l.* 8*s.* found to be due; what Rate of Interest could then be implied? *Answer,* 5 ⅌ *Cent.* ⅌ Annum.

(194) *A.* for nine Months Adventure received 20*l.* *B.* for one of seven Months received 25 Guineas; and *C.* for lying out of his Contribution 5 Months, had a Title to 32*l.* The Total of their Adventures, multiplied into their respective Times, was 640*l.* What then were the Particulars?

Answer, *A.* 18*l.* 3*s.* 6*d.* *B.* 30*l.* 13*s.* 5*d.* *C.* 52*l.* 6*s.* 10$\frac{1}{4}$*d.*

(195) *A.* clears 13*l.* in 6 Months; *B.* 18*l.* in 5 Months; and *C.* 23*l.* in 9 Months, with a Stock of 72*l.* 10*s.* What then did the general Stock amount to?

Answer, 131*l.* 6*s.* 10*d.* nearly.

I have

(196) I have imported 80 Jars of Lucca Oil, each containing 1180 solid Inches: What came the Freight to at 4 s. 6 d. ⅌ *Cwt.* Tare, 1 in 10; counting 7½ Pounds of Oil to the Wine Gallon of 231 Cubic Inches?

Answer, 5 l. 10 s. 9 d.

(197) *A.* had 15 Pipes of Malaga Wine which he parted with to *B.* at 4⅓ ⅌ *Cent.* Profit, who sold them to *C.* for 38 l. 11 s. 6 d. Advantage; *C.* made them over to *D.* for 500 l. 16 s. 8 d. and cleared thereby, 6½ ⅌ *Cent.* What did this Wine cost *A.* ⅌ Gallon?

Answer, 4 s. 4¼ d.

(198) If 19 Yards of Yard-wide Stuff, exactly line 14 Yards of Silk of another Breadth, how many Yards of the latter will line 184 Pieces of the former, each Piece holding 28½ Yards?

Answer, 3864 Yards.

(199) *A.* has 50 Broad-Cloths, at 11 l. 10 s. a Piece, but in Change requires 13 l. taking Wool, at 2 s. 6 d. ⅌ Stone of *B.* in Return, that was really worth but 4 s. 2 d. a Tod: The Question is, how many Sacks of Wool will pay for the Cloth, and which of the Dealers has the better in the Bargain?

Answer, 200 Sacks. *B.* got 33 l. 6 s. 8 d. by the Affair.

(200) *V.* of Amsterdam, draws on *X.* of Hamburg, at 67 d. Flem. ⅌ Dollar of 32 Sols Lubeck; and on *Y.* of Nuremberg, at 70 d. Flem. ⅌ Florin of 65 Crutzers Current: If *V.* has Orders to draw on *X.* in order to remit to *Y.* at said Prices, how would run the Exchange between Hamburg and Nuremberg?

Answer, 33$\frac{27}{65}$ Sols *Lub.* ⅌ Florin.

(201) *M.* of Amsterdam orders *N.* of London to remit *O.* of Paris, at 54 d. Sterl. ⅌ Crown, and to draw on *P.* of Antwerp, for the Value, at 33½ s. Flem. ⅌ Pound Sterling; but as soon as *N.* received the Commission, the Exchange was on Paris at 54½ d. ⅌ Crown: Pray at what Rate of Exchange ought *N.* to draw on *P.* to execute his Orders, and be no Loser? *Answer,* 33 s. 2$\frac{34}{105}$ d.

(202) *A.* with Intention to clear 30 Guineas, on a Bargain with *B.* rates Hops at 16 d. ⅌ Pound, that stood him in 10 d. *B.* appriz'd of that, sets down Malt, which cost 20 s. a Quarter, at an adequate Price: How much Malt did they contract for? *Answer,* 420 Bushels.

A. and

(203) *A.* and *B.* venturing equal Sums of Money, clear by joint Trade 154 *l.* by Agreement *A.* was to have 8 ℔ *Cent.* becaufe he fpent Time in Execution of the Project, and *B.* was to have only 5: The Queftion is, what was allotted *A.* for his Trouble?   *Anfwer,* 35 *l.* 10 *s.* 9 ¼ *d.*

(204) *A.* in order to put off to *B.* 720 Ells of damaged Holland, worth 5 *s.* an Ell, at 6 *s.* 8 *d.* propofes, in cafe he has half the Value in Money, to give *B.* thereon a Difcompt of 10 ℔ *Cent.* The reft *A.* is to take out in Saffron, which *B.* apprized of the whole Management, rates in Juftice at 30 *s.* the Pound: Pray what was it really worth in ready Money; and what Quantity of Saffron was he to deliver on the Change?

                    Anfwer, 20 *s.* a Pound, and 72 of them.

(205) *A.* lent his good Friend *B.* fourfcore and eleven Guineas, from the 11th of December to the 10th of May following; *B.* on another Occafion, let *A.* have 100 Marks, from September 3 to Chriftmas following: Query, how long ought the Perfon obliged to let his Friend ufe 40 *l.* fully to retaliate the Favour?   *Anfwer,* 170 Days, nearly.

(206) Laid out in a Lot of Muflin, 480 *l.* 12 *s.* upon Examination of which, two Parts in feven proved damaged: fo that I could make but 5 *s.* 6 *d.* a Yard of the fame; and by fo doing find I loft 48 *l.* 18 *s.* by it. At what Rate ℔ Ell am I to part with the undamaged Muflin, to make up my faid Lofs?   *Anfwer,* 12 *s.* 4 *d.* nearly.

(207) June the 23d. 1745. bought 900 *l.* of New South Sea Annuities, at 111 ⅜ ℔ *Cent.* viz. the Day before the clofing of the Books, the Brokerage whereof is always 2 *s.* 6 *d.* ℔ *Cent.* on the Capital, whether you buy or fell. The Midfummer Dividend, 2 ℔ *Cent.* became due, and payable on the 10th of Auguft following, by which Time the Rebellion growing confiderable in the North, the faid Annuities were down at 92 ½ ℔ *Cent.*. In the general Alarm fold 400 *l.* Capital at that Price; but continued the Remainder till a fecond, third, fourth, and fifth Dividend, as before, became due: And on opening the Books 10 Auguft, 1747, fold out at 102 ⅝ ℔ *Cent.* Now, reckoning I might have made 5 ℔ *Cent.* on my Money, had I kept it out of the Stocks, how ftood this Article in Point of Profit or Lofs?

          Anfwer, to my Damage, 168 *l.* 13 *s.* 2 ¼ *d.*

                                   A LET-

A LETTER from a Merchant to his Factor.

Mr Isaac Sharp,

Sir,

YOURS of the 11th current I received, and am glad to understand you will recover good Part of your Loss of the Insurers of the Swan. My Account of Sales inclosed I have examined, and am satisfied with the Net Proceed, and your Management therein. With Convenience, please to buy 10 Hhds. of white Biscuit, and 49 Barrels of Beef, and send ℥ first Vessel to Jamaica, consigned to Mr Thomas Gunston, for my Accompt: Pray engage your Victualler to get the Beef carefully salted and barreled, considering the Climate to which it is sent. I am,

London, July 19, 1764.   Sir,

Your Friend and Servant,
Richard Allom.

ANSWER from the Factor to his Imployer.

Mr Richard Allom,

Sir,

INclosed are the Invoyce and Bill of Lading of 49 Barrels of Beef, and 10 Hhds. of white Biscuit, bought and consigned, by your Order, to Mr Thomas Gunston at Port-Royal; which being well casked, I hope will prove well, and arrive to a good Market. An Opportunity presents of drawing upon you for the Value, payable at one and twenty Days Sight, to the Commissioners of Customs at London, which I must entreat you to honour, and hope in a very short Time to answer your Expectations, as to my Balance depending: In the mean Time, as Occasion offers, let me have the Honour of your Commands, who am,

Sir,

Your obliged humble Servant,

Dublin, Sept. 7, 1764.   *Isaac Sharp.*

For Practice, the Learner may be put to draw Bills of Lading, Entry, and Exchange, consequent to this Advice, by former Precedents.

P   Invoyce

Laus Deo, in Dublin, Sept. 5, 1764.

Invoyce of 49 Barrels of Beef, and 10 Hhds. of white Biscuit, shiped by me Isaac Sharp on board the Dublin Merchant, Nich. Tory Master; and goes consigned to Mr Thomas Gunston, Merchant, at Port-Royal in Jamaica; for the proper Account and Risque of Mr Richard Allom of London; being marked and numbered as ⚓ Margin, Content, Cost, and Charges, *viz.*

Imprimis, To 49 Barrels of Beef, bought of Jonas Long, at 15 *s.* 6 *d.* ⚓ Barrel ——— } *l.*

To 10 Hhds. of white Biscuit, bought of Will. Man, 29 *Cwt.* 26 *lb.* at 10 *s.* ⚓ *Cwt.* ——— }

N° 1. to 59.   CHARGES.

To Custom of the Beef,	*l.* 2	9	0
Ditto of the Biscuit, ——	0	10	0
Entry and Fees of Cocket,	0	5	6
Searcher, and Wharfinger's Fees of all, —— }	0	7	6
Carts to the Custom-house, 1½ *d.* ⚓ Barrel, }	0	6	1
Carts for Hhds, to the Baker's, and to the Custom-House, }	0	3	4
For 10 Hhds. 25 *s.* and Cooperage, Hoops, and Heading, 16 *s.* }	2	1	0
Porters and Shiping, ——	0	3	4

l. 6 . 5 . 9

To my Commission at 2½ ⚓ *Cent.* *l.* 1 . 9 . 5

Supposing the Ex. Current to be 10 per Cent. in Favour of England; pray what Sum may Mr Sharp, at Dublin, draw for on London, on Account of the Factory above?

l.

Errors excepted, ————

⚓ *Isaac Sharp.*

Answer, l. 54 . 17 . 3

[Invoyce or Factory] *is the Account of Cost, Custom, Provision, Charges,* &c. *of Goods sent from a Merchant or Factor, to his Correspondent or Imployer, beyond Sea.*

[Commission or Provision] *is an Allowance to the Factor, for his Pains in doing Business for his Imployer.*

Invoyce

Invoyce of 5 Barrels of Indigo, 5 Hhds. of Pymento, and 5 Hhds. of Sugar, shiped on board the Lyon, William Jones Master; for Accompt and Risque of Nath. Owen, Merchant in London, being marked and numbered as under.

Port-Royal in Jamaica, Nov. 15, 1764.

Indigo, 5 Barrels.

N°						
1	142					
	143					
to	146					
	152					
5	173					
	756 *lb.*		Nt. at 2 s. 1 d. ℔ *lb.*		4 . 7 . 9

Pymento, 5 Hogsheads.

N°	Gr.	Tr.		
1	432	84		
	396	72		
to	410	81		
	376	70		
5	412	82		
	2026	389		

Gr. 2026
Tr. 389
Nt. 1637 at 1 ½ d. ℔ *lb.*   5 . 4 . 11

Sugar, 5 Hogsheads.

	Cwt.	qr.	lbs.	
Gr.	52	1	20	
Tr.	8	2	0	
Nt.	43	3	20	at 24 s. ℔ 100 *lb.* 10 . 19 . 7

Charges, viz.
To Cost of 5 Barrels and 10 Hogheads.
To Storage, 2¼ per Cent.
To Commission, at 5 per Cent.

Errors excepted, ℔ Edwin and Sancroft. l. 230 . 10 . 10

Note, In the American Plantations 100 *lb.* is their Cwt.

RECREATION XV.

(208) A Bond was made on the 7th of August, 1713, at 6 ꝑ Cent. ꝑ Annum for the Sum of 1114 *l.* 10 *s.* On the 11 of May, 1718, 140 *l.* was paid off, and a fresh Bond entered into for the Remainder at 5 ¼ ꝑ Cent. ꝑ Annum. At the Time the Interest of this last was 21 *l.* 16 *s.* 8 *d.* there was paid off 87 *l.* 11 *s.* 9 *d.* The old Bond being then taken up, a new one was given for the Residue; which being paid off on the 11th of September, 1724, the Bond-owner took no more than 1409 *l.* 16 *s.* 8 *d.* in full Payment. At what Rate then did he take Interest ꝑ Cent. ꝑ Annum upon the last Renewal of the Bond?

Answer, 2 *l.* 9 *s.* 6 ½ *d.*

(209) *A. B.* and *C.* will trench a Field in 12 Days; *B. C.* and *D,* in 14; *C. D.* and *A.* will do it in 15; and *D. A.* and *B.* in 18: In what Time will it be done by all of them together, and by each of them singly?

Answer, Together in 10,8⅓ Days: By *A.* 47,848. *B.* in 38,931. *C.* in 27,194. *D.* in 111,176 Days.

(210) *A.* at Paris draws on *B.* of London 1200 Crowns, at 5⅗ *d.* Sterling ꝑ Crown; for the Value whereof *B.* draws again on *A.* at 56 *d.* Sterling ꝑ Crown, besides reckoning Commission ½ ꝑ Cent. Did *A.* get or lose by this Transaction, and what? *Answer,* he got 15 Crowns ¹¹⁄₁₄.

(211) Amsterdam changes on London, 34 *s.* 4 *d.* ꝑ Pound Sterling, and on Lisbon at 52 *d.* Flem. for 400 Rees: How then ought the Exchange to go between London and Lisbon?

Answer, 75 ⁴⁵⁄₁₀₃ *d.* Sterling for 1000 Rees.

(212) A Druggist has by him 4 Sorts of Green Tea, *viz.* of 5 *s.* 6 *s.* 8 *s.* and 9 *s.* ꝑ Pound: Out of these he is inclined to mix up a Tub, containing Nt. a Hundred and a half, so as to make the Commodity worth 7 *s.* the Pound: In what Proportion must those Teas be taken?

Answer, Either 42 *lb.* of each, or else 28 *lb.* of those of 8 *s.* and 6 *s.* with double that Quantity of the other two Sorts: And in Truth, as many Answers may be found to this Proposition, as there are different Ways of alligating properly the Prices of the Goods proposed. The Judgment of the Trader will, however, rather

rather appear in confulting the Quality of his Goods, in order to the making an agreeable Mixture of them, than in taking any Direction from their Price or Value.

(213) *A.* has 100 Reams of Paper at 8 *s.* ready Money, which in Barter he fets down at 10 *s.* *B.* fenfible of this, has Pamphlets at 6 *d.* a piece, ready Money, which he adequately charges, and infifts, befides, on ¼ of the Price of thofe he parts with in Specie: What Number of the Books is he to deliver in lieu of *A*'s Paper? what Cafh will make good the Difference? and how much is *B.* the Gainer by this Affair?

Anfwer, They deal on the Par at 10 *s.* the Paper, and 7½ *d.* a piece for the 1600 Pamphlets, was no Money to pafs between them: But *B.* requiring ¼ of the 50 *l.* his Part of the Goods comes to in Money, reduces his own Outgoings, which intrinfically are 40 *l.* to 27 *l.* 10 *s.* and the juft Value of *A*'s Paper being full 40 *l.* gives *B.* in this Tranfaction, the Advantage of 12 *l.* 10 *s.*

(214) *A. B.* and *C.* company; *A.* put in his Share of the Stock for 5 Months, and laid claim to ¼ of the Profits; *B.* put in his for 8 Months, *C.* advanced 400 *l.* for 7 Months, and required on the Balance ⅓ of the Gain: The Stock of the other two Adventurers is fought?

Anfwer, A. 168 *l. B.* 70 *l.*

(215) A young Hare ftarts 5 Rods before a Greyhound, and is not perceived by him, till fhe has been up 34 Seconds; fhe fcuds away at the Rate of 12 Miles an Hour, and the Dog, on view, makes after her, at the Rate of 20: How long will the Courfe hold, and what Ground will he run, beginning with the Outfetting of the Dog?

Anfwer, 58 1/33 Seconds, 1702½ Feet run.

(216) *A.* and *B.* barter; *A.* has 140 *lb.* 11 *oz.* of Plate, at 6 *s.* 4 *d.* the Ounce, which in Truck he rates at 7 *s.* 2 *d.* an Ounce, and allows a Difcount on his Part, to have ⅐ of that in ready Specie. *B.* has Tea worth 9 *s.* 6 *d.* the Pound, which he rates at 11 *s.* 2 *d.* When they come to ftrike the Balance, *A.* received but 7 *Cwt.* 2 *qr.* 18 *lb.* of Tea: Pray what Difcount did *A.* allow *B.* which of them had the

the Advantage, and how much, in an Article of Trade thus circumſtanced ?

Anſwer, Diſcount allowed 40 *l.* 6 *s,* 6 $\frac{5}{7}$ *d.* or 7 *l.* 15 *s.* 3 $\frac{3}{4}$ *d.* ₩ *Cent.* B. the Advantage by 41 *l.* 7 *s.* 4 $\frac{6}{7}$ *d.*

(217) London changes with Amſterdam on Par, at 33 $\frac{1}{3}$ *s.* Flem. ₩ Pound ; Amſterdam changes on Middleburg at 2 ₩ *Cent.* advance: How ſtands the Exchange between London and Middleburgh ?

Anſwer, 34 *s.* Flem. ₩ Pound Sterling.

(218) *Q.* of Rotterdam, remits to *R.* of Paris 2000 Crowns, at 91 *d.* Flem. ₩ Crown, at double Uſance, or 2 Months, and pays $\frac{3}{10}$ ₩ *Cent.* Brokerage, with Orders to remit him again the Value, at 93 *d.* ₩ Crown, allowing at the ſame Time $\frac{1}{3}$ ₩ *Cent.* for Proviſion: What is gained ₩ *Cent.* ₩ Annum, by a Remittance thus managed ?

Anſwer, 10 $\frac{41470}{183273}$.

(219) If I leave Exeter at 10 o'Clock on Tueſday Morning for London, and ride at the Rate of two Miles an Hour without Intermiſſion ; you ſet out of London for Exeter at 6 the ſame Evening, and ride 3 Miles an Hour conſtantly : The Queſtion is, whereabout on the Road you and I ſhall meet, if the Diſtance of the two Cities be 130 Miles ?

Anſwer, 61 $\frac{3}{7}$ Miles from Exeter.

(220) A Reſervoir for Water has two Cocks to ſupply it ; by the firſt it may be filled alone in 44 Minutes ; by the ſecond, in juſt an Hour ; and it hath a diſcharging Cock, by which it may, when full, be emptied in half an Hour: Now, ſuppoſe theſe three Cocks, by Accident, ſhould all of them be left open, and the Water ſhould chance to come in : What Time, ſuppoſing the Influx and Efflux of the Water to be always alike, would this Ciſtern be in filling ?

Anſwer, 2 $\frac{1}{4}$ Hours.

(221) *A.* ſets out of London for Lincoln, at the very ſame Time that *B.* at Lincoln ſets forward for London, diſtant 100 Miles. At 8 Hours End they meet on the Road, and it then appeared that *A.* had rode 2 $\frac{1}{2}$ Miles an Hour more than *B.* At what Rate an Hour did each of them travel ?

Anſwer, A. 7 $\frac{1}{2}$ Miles. *B.* 5.

(222) Double my Money for me, ſaid *A.* to *B.* and I will give thee 6 *d.* out of the Stock. With the Remainder he ap-

plied

plied in the like Manner to *C.* with equal Succe∫s, and gave him al∫o al∫o 6 *d.* He repeated this Propo∫al to *D.* and then 6 *d.* was all he had to give. Pray what had he to begin with?

An∫wer, 5 ¼ *d.*

(223) My Water-tub holds 147 Gallons, the Pipe u∫ually brings in 14 Gallons in 9 Minutes. The Tap di∫charges at a Medium, 40 Gallons in 31 Minutes. Suppo∫ing the∫e both carele∫sly to be left open, and the Water to be turned on at 2 in the Morning. The Servant at 5, finding the Water run-nung, ∫huts the Tap, and is ∫olicitous in what Time the Tub will be filled after this Accident, in ca∫e the Water continues flowing from the Main?

An∫wer, at 3 Min. 48 Sec. after 6.

(224) If during the Tide of Ebb, a Wherry ∫hould ∫et out from London We∫tward, and at the ∫ame In∫tant another ∫hould put off at Chert∫ey for London, taking the Di∫tance by Water at 34 Miles: The Stream forwards this, and retards the other, ∫ay 2½ Miles an Hour: The Boats are equally laden, the Rowers equally good, and in the ordinary way of Working, in ∫till Water, would proceed at the Rate of 5 Miles an Hour: The Que∫tion is, where in the River the two Boats would meet?

An∫wer, 8½ Miles from London.

(225) There are two Pieces of Clock-work, which, run-ning with a Fly, will each of them lower a Weight uniform-ly, to the Depth of 35 Feet: The fir∫t Weight, or *A.* de∫cends $\frac{13}{16}$ of an Inch in an Hour; and when it is let down, 12 Feet: The Second, or *B.* is put off, and the Train of Wheels be-longing to this Machine, is ∫o ordered, that the Weights will be in the ∫ame Level 100 Inches before they come to the Bottom: The Velocity of *B*'s De∫cent is required?

An∫wer, 1 $\frac{2}{11}$ Inch ℔ Hour.

(226) *A.* and *B.* truck, *A.* has 14 *Cwt.* 81 *lb.* of Farnham Hops, at 2 *l.* 19 *s.* ℔ *Cwt.* but in Barter, in∫i∫ts on three Guineas. *B.* has Wine worth 6 *s.* ℔ Gallon, which he rai∫es in Proportion to *A*'s Demand. On the Balance *A.* re-ceived but a Hog∫head and a half of Wine: Pray what had he in ready Money?

An∫wer, 16 *l.* 2 *s.* 1 ½ *d.*

Am∫ter-

Amsterdam, Jan. 10, 1764.

Invoyce, or Factory of 10 Ps. of Holland, 10 Ps. of Cambrick, 9 Ps. of Ghentish Cloth, laden by me Jonas Diligent, on board the Jesiah, Thomas Cock, Master; for the proper Account and Risque of Henry Porter, Merchant in London, under the Mark per Margin: Contents, Costs, and Charges, viz.

Gil. Sti. Pen.

10 Ps. of Holland.

N°.	Qt. 31½	N°. 6.	Qt. 33¼	5 Ps. Qt.
	33¾		32	Ditto . .
to	32	to	34	
	3t		3 1½	
5.	30½	10	32¼	

In all 321¼ Ells at 1 . 11 per Ell.

9 Ps. of Cambrick, Qt. 124½ Ells Flem. at 1 Gil. 3 Stiv. per Ell.
9 Ps. of Ghentings, Qt. 105½ Ells Flem. at 19 Stiv. per Ell.

Gil. Sti.

C H A R G E S.

	Gil.	Sti.
To Custom and Brokerage of the Hollands, 3 Gil. per Ps.	30	0
To Charges in buying	2	5
To Custom of Cambrick and Ghentings	19	11
To Sledage and Boatage	3	16
To Warehouse Room	4	3
To Average and Portage	1	11

To my Commission, at 2¼ per Cent.

Errors excepted,

From your humble Servant,

Jonas Diligent.

Making at 34s. 6d. for   61 . 6 . 0
20s. Stel. 79l. 9s. 9d.   20 . 1 . 5

Flor.

Port-Royal in Jamaica, Anno 1764.

An Account of Sales of 2765 Ells of Brown Ozenbrigs; 1112 Yards of Blue Hertfords; 2 Ps. of Black Cloth, Qt. 39 Yards; 40 Pair of Stockings; and 175 Ells of Bag-Holland, received from on board the Lion, Capt. Banister Master, from London, on Account of Mr Edward Luckey, is—Dr

	l.	*s.*	*d.*
To Portage of ditto	0	17	6
To Commission on Sales, 5 ℔ Cent.	12	16	9
To Storage, 2⅛ ℔ Cent.	5	9	1
	19	3	4
To Mr E. Luckey his Accompt current, for the Nt. Proceed, bad Debts excepted,	237	11	11

Contra

Port-Royal in Jamaica, Anno 1764. Cr *l. s. d.*

By Benjamin Eaton, sold him 2765 Ells of Ozenbrigs, Yards, at 8¼ *d.* ℔ Yard

By 1112 Yards of Blue Linens, sold ditto, at 7½ *d.* ℔ Yard

By James Smart, for 39 Yards of Cloth sold him, at 15 *s.* ℔ Yard

By Lawrence Nunks, sold him 40 Pair of Hose, at 7 *s.* 10 *d.* ℔ Pair

By Dito, for 175 Ells of Bag-Holland, at 6 *s.* 3 *d.* ℔ Ell

Errors excepted, Apr. 16. 1764.

℔ Your humble Servant,

James Bradshaw.

Oporto, March 11. 1764.

Invoyce of Wine, laden ℔ Nich. Strong and Owen Jamyn, on board the Savanna, John Snap Master, for Account of P. Lilly and Comp. and consigned to Paul Ludolph and Comp. in Dantzick.

		Mill. Reas.
P.	To Cost of 10 Pipes of Wine, bought of Anth. de Minas, at 16 M. ℔ Pipe	160 . 000
	To Custom, at 1055 Reas ℔ Pipe	10 . 550
	To Triming, &c. at 400 Reas	4 . 000
	To Primage, at 60 Reas ℔ Pipe	0 . 600
No. 1.	To Brokerage, at $\frac{1}{2}$ ℔ Cent.	0 . 876
to 10.	To Commission, at 3 ℔ Cent.	5 . 280
	To Port-Charges of the said Ship	6 . 380
		187 . 680

Ex° 40 Reas for 3 d.

Errors excepted, ℔ *Nich. Strong and Owen Jamyn.*

Answ. L 58 . 13 Sterling.

[Primage and Average] are small Allowances made to the Master and Mariners of a Ship, at Lading. [Average] also the Contribution of Insurers, in Case of Loss; and sometimes the Assessment made upon the rest of the Lading, to make good that Part which the Sailors cast overboard in Stress of Weather, for the Security of the Whole.

INVOYCE *from* SPAIN.

Invoyce of one Barrel cont. one Seron of Cascarilla, shiped on board the Sevilla-Merchant, Capt. Jonathan Braddel Commander, for Accompt and Risque, as ℔ Advice; and go consigned to Mr Abra. Randal, Merchant in London; the Mark as ℔ Margin. To Cost, &c. ——— Dr.

Laus Deo, in Cadiz, the 5th of Oct. 1764.

	Ry.	Pl.
One Seron, Qt. Netto, 2094¼ *lb.* of Cascarilla, at 9 Ps. 8/8 ℔ *lb.*	834	½
	378	½
To Dispatch 4 Ps. 8/8 is	32	
To Portage to the House, and Boats	4	
To Boat-hire, aboard	8	
To Brokerage, at ½ ℔ Cent.	39¼	
To my Commission, at 2½ ℔ Cent.	9	

Ry.

At 8 Ryals of Plate, ℔ Ps. of 8/8, what does the whole amount to, Ex°. at 52d. Sterl. ℔ Ps. of 8/8?

Errors excepted,

James Langlow.

Answ. *l.* 420 . 10 . 10¾

[Brokerage] *is an Allowance to the Broker, to bring Persons to buy or sell Goods, &c.*
[To Balance an Accompt] *is to make the Total of the Dr and Cr Sides, when cast up, alike.*

INVOYCE *from* FRANCE.

Bourdeaux, the 20th of Oct. 1764.

Invoyce of ¼ Ton of Wine, and 20 Ps. of Prunes, shiped on the Canary-Merchant, John King Master, for Accompt of Valentine Austin, Merchant in London, marked as in the Margin.

		Liv.	Sol.	Den.
To 2 Hhds of Graves Claret, at 50 Cr. ℔ Ton		75	0	0
To 20 Ps. of Prunes, bought of Mr Tarf and Compl. cont. *viz.*	Tr. 97½ *lb.* ℔ Cask.			

No. 1. ——— 1000 *lb.*	No. 11. ——— 955 *lb.*
2. ——— 1000	12. ——— 960
3. ——— 1000	13. ——— 960
4. ——— 1005	14. ——— 955
5. ——— 990	15. ——— 900
6. ——— 995	16. ——— 925
7. ——— 955	17. ——— 950
8. ——— 1045	18. ——— 981 Gr.
9. ——— 1000	19. ——— 930 Tr.
10. ——— 1000	20. ——— 1040

10 Qt. Do.

20 Qt.

lb.   *lb.* 17596 Nt. at 2 . 17 . 7 ℔ Quintal.

Liv. Sol. Den.

(Continued as under)

C H A R G E S.

	Liv.		
To Custom and Brokerage of Wine, 20 *liv.* ℔ Ton.	16	0	6
To Charges in buying, 15 *fol.* ℔ Ton	0	7	0
To Sledage and Boatage of the said Wine	0	15	0
To Custom of Prunes, *liv.* 4. 15 ℔ Ps.	95	0	0
To Sledage and Boatage, 9 *fol.* ℔ Ps.	9	0	9
To the Ship-Broker, for the Prunes, 10 *fol.* ℔ Ton	4	17	10
To Average and Poor's Box, 27 *fol.* ℔ Ton, Gr.	13	3	

133 : 4 : 1

17 : 17 : 6

To my Commission, at 2 ½ ℔ Cent.   *Liv.*

Liv.

Errors excepted,

Leon. Moulfon.

172 . 3 . 7

What Sterling is Mr Auffin to charge himself with, on Account of this Factory. And what ought the Prunes to weigh at London, the Kintal or 100 *lb.* Bourdeaux, being 110 at London?

at 57½ *d.* ℔ Cr.

Anfw. l. 58 : 10 : 3 : Cwt. 172 . 3 . 7

RECREATION XVI.

(227) A Ciftern holds 103 Gallons, and being brim full, has 2 Cocks to run off the Water; by the firft of which, a three Gall. Pail will be filled in 60 Seconds; by the other in 75: In what Time will this Ciftern be emptied, through both thefe Apertures together, fuppofing the Efflux of the Water all along the fame?

Anfwer, 19 Minutes, 4 ⅖ Seconds.

(228) *A.* of Amfterdam owes *B.* of Paris 2000 Florins of current Specie, which he is to remit him, by Order, the Exchange 90½ *d. Flem. de Banco,* ⅌ Crown of 60 Sols Tournois, the Agio of the Bank being 4 ⅌ *Cent.* better than Specie; but when this was to be negotiated, the Exchange was down at 89½ *d.* ⅌ Crown, and the Agio, let us fuppofe, raifed to 5 ⅌ *Cent.* What did *B.* get by this Turn of Affairs?

Anfwer, 1 *cr.* 18 *fol.* 9 *den.*

(229) Sound, not interrupted, is by Experiments found uniformly to move about 1150 Feet in a Second of Time: How long then, after firing the Warning-gun in Hyde-Park, may the fame be heard at Highgate, taking the Diftance at 5⅔ Miles?

Anfwer, 26 Seconds, $1\frac{1}{23}$ Third?

(230) *Y. Z.* made the following Bett for 1000 Guineas, to be decided the Monday, Tuefday, and Wednefday in Whitfun Week, on Barham Downs, between the Hours of 8 in the Morning and 8 at Night. The Propofer has 10 choice Cricketers in full Exercife, who, on this Occafion, are to be diftinguifhed by the firft 10 Letters of the Alphabet. Thefe are to run and gather up, and carry fingly, 1000 Eggs, laid in a right Line, juft two Yards afunder, putting them gently into a Bafket placed juft a Fathom behind the firft. They are to work one at a Time, in the following Order: *A.* is to fetch up the firft 10 Eggs, *B.* the fecond, *C.* the third ten, and fo forward to *K.* whofe Turn it will be to fetch up the 100th Egg. After which *A.* fets out again for the next 10, *B.* takes the next, and fo forward alternately, till *K.* fhall have carried up the 1000th Egg, at 100 Eggs ⅌ Man. The Fellows are to have 300 *l.* for their 3 Days Work, if they do it, and it is to be diftributed in Proportion to the Ground each Man fhall in his Courfe have gone over. It is

required,

required, firſt, How many Miles each Perſon will have run? Secondly, What Part of the 300 *l*. will come to his Share? Thirdly, Whether, if the Men had been poſted at proper Places, they had not better have run from London to York twice, and back in the Time, taking the Meaſure at 180 Miles?

Anſwer, A. 27*l*. 6*s*. C. 28*l*. 10*s*. E. 29*l*. 14*s*. G. 30*l*. 17*s*. 11*d*. J. 32*l*. 1*s*. 11*d*. The Fractions come to 5*d*. and the Journey mentioned would have fallen ſhort of their preſent Undertaking, 417½ Miles.

(231) If I ſee the Flaſh of a Piece of Ordnance, fired by a Veſſel in Diſtreſs at Sea, which happens, we will ſuppoſe, nearly at the Inſtant of its going off, and hear the Report a Minute and 3 Seconds afterwards; How far is ſhe off, reckoning for the Paſſage of Sound as before?

Anſw. 13 Miles, 5 Furl. and 31 Poles, nearly.

(232) The Quantity of Matter contained in all Spheres, is directly in Proportion to the Cubes of their Diameters; if then a Bullet of caſt Iron, 4 Inches diameter, weighs experimentally 9 *lb*. what is the Difference of the Weight of one that is 13½ Inches, and another that is no more than 7½ Inches?

Anſwer, About 287 *lb*.

(233) If the Diameter of the Earth is 7970 Miles, of the Moon 2170 Miles, ſuppoſing them both to be exact Spheres, as they are not: What Compariſon is there between them in Point of Magnitude?

Anſwer, The Earth is 49,5446 times bigger than the Moon.

(234) A. and B. are on oppoſite Sides of a Wood, 134 Toiſes about. They begin to go round it both the ſame Way at the ſame Inſtant of Time, A. goes 11 Toiſes in 2 Minutes, and B. 17 in 3: The Queſtion is, How many Times will they ſurround this Wood, before the Nimbler overtakes the Slower?

Anſwer, 17 times.

(235) There are three Orders of Leavers, or three Varieties, wherein Weights, Props, and Moving-Powers may be differently applied to the Vectis, or inflexible Bar, in order to effect mechanical Operations in a convenient Manner. The firſt hath the Power placed at one of its Ends, the Weight to be raiſed is put at the other, and the Prop is

some-

somewhere between. A Leaver of the second Order, has the Power also at one End, the Prop is fixed directly at the other, and the Weight somewhere between them. Where the Prop is planted at one End of the Bar, the Weight at the other, and the Moving-Force is applied somewhere between, it is then a Leaver of the third Order.

If a Leaver, 40 effective Inches long, will by a certain Power thrown successively thereon, in 13 Hours raise a Weight 104 Feet: In what Time will two other Leavers, each 18 effective Inches long, raise an equal Weight 73 Feet; the Force of straight Leavers being in a direct Proportion of their Lengths?

Answ. 10 Hours, 8½ Minutes.

(236) A Leaver of the first Order equally divided, and justly poised, is the Balance-Beam: To this, if a Power be applied at one End, it will always move an equal Weight at the other. In like Manner, a Leaver equally poised, and unequally divided, having a Power applied at one End, will move a Weight at the other which will be reciprocally proportionable to the Distances of those Ends from the Fulcrum, or Point supported: Of this kind is the Steelyard. What Weight then hung on, at 70 Inches Distance from the Prop of this Machine, will equipoise a Hogshead of Tobacco of 9½ *Cwt.* freely suspended at two Inches Distance on the contrary Side?

Answer, 30 ⁹⁄₁₆ *lb.*

(237) Again: What Weight will a Fellow be able to raise, who presses with the Force of a Hundred and a half, on the End of an equipoised Handspike 100 Inches long, which is to meet with a convenient Prop exactly 7¼ Inches above the nether End of that Machine?

Answer, 2072 *lb.*

(238) In giving Directions for making an Italian Chair, the Shafts whereof were settled at 11 Feet between the Axle-Tree, whereon the principal Bearing is, and the Backband, by means of which the Weight is partly thrown upon the Horse; a Dispute arose whereabout on the Shafts the Center of the Body of this Machine should be fixed. The Coach-Maker advised this to be done at 30 Inches from the Axle: Others were of Opinion, that at 24 it would be a sufficient Incumbrance to the Horse. Now, admitting the two Passengers, with their Baggage, ordinarily to weigh 2 *Cwt.* apiece, and the Body of the Vehicle to be about 70 *lb.* more;

Pray

Pray what will the Beast, in both those Cases, be made to bear more than his Harness; observing only, that these Shafts are no other than Leavers of the second Order, and that the Weight to be supported will be always reciprocally as the Distance of the Center of the Machine's Gravity shall be from the Prop and moving Power?

Answer, $117\frac{8}{11}$ *lb.* in the former, and $94\frac{2}{11}$ *lb.* in the second Case.

(239) A Person with a Hand-spike 100 Inches long, is said, in the last Proposition save one, by bearing on the upper End of it with the Force of 168 *lb.* to sustain 2072 *lb.* at the other, a convenient Prop being pitched $7\frac{1}{2}$ Inches above it. If now we change the Nature of the Leaver, and, bearing on the Pavement with the nether End, we suppose the Weight to be moved presses at $7\frac{1}{2}$ Inches, or where the Prop in the other Case was fixed, and the Hand lifting at the upper End with the Force of 168 *lb.* as before; the Question is, what Difference there will be in Point of Power between these different Applications of the same Leaver?

Answer, The Power gained in either Case will be as 37 to 3, exactly the same. A Person is capable, indeed, generally, of lifting more than his own Weight: The latter Application seems to be the more advantageous on that Account; but when equal Forces are applied to Leavers of the first two Orders, *cæteris paribus*, equal Effects will be produced.

(240) A Water-wheel turns a Crank, working 3 Pump-Rods, fixed just 6 Feet from the Joint or Pin, by which their several Leavers, each 9 Feet in length, are fastened, for sake of the intended Motion, at one End; the Suckers of the Pumps being worked by the other, shews them to be Leavers of the third Order. Now, I would know what the Length of the Stroke in each of the Barrels will be, if the Crank be made to play just 9 Inches round its Center?

Answer, 27 Inches.

(241) Once more: With what Force ought that Water-wheel to be driven, which, circumstanced as above, raises 3 Cubic Feet of Water at every Revolution of the Wheel, each experimentally weighing $62\frac{1}{2}$ *lb.* Avoirdupoiz; the Friction of the Machine rejected?

Answer, Without forcing it any higher, the Lift must be $281\frac{1}{4}$ *lb.*

R   Factory

INVOYCE *from* ITALY.

Factory of the Coſt and Charges of One hundred Barrels of Anchovies, ſhiped on board the Tortois, Capt. James Snat, for Accompt of Mr Samuel Tanqueray of London, Merchant; and conſigned to himſelf, under Mark ℣ Margin.

	Liv.	Sol.	Den.
To prime Coſt of ſaid 100 Barrels of Anchovies, at Ps. ⅝ ℣ Bar. 2 ¾	1650 . — . —		
	Liv.		
To Portage and Warehouſe	6 . 0 . 0		
To Jeſſing, with Cooper's Pains	15 . 0 . 0		
To Warehouſe-Room and Leviation	25 . 0 . 0		
To Portage and Boatage aboard	20 . 0 . 0		
To Brokerage, ½ ℣ Cent.	8 . 5 . 0		
To Primage	5 . 0 . 0		
To my Proviſion, 3 ℣ Cent.	—		
	Liv.		
	79 . 5 . —		
	51 . 17 . 6		

Livorn, Nov. 26, 1764.

Errors excepted,

℣ *Emanuel Luizena.*

At 115 Sols ℣ Ps. of ⅝ for how much Sterling may Mr Tanqueray credit his Factor, Exᵒ at 4s. 6d. Sterling ℣ Ps. of ⅝?

Anſw. l. 69 . 13 . 11

[*Italy changes upon the Dollar, containing at Legborn 6 Livores; at Genoa but 5.*]

INVOYCE *from* LONDON.

Invoyce, or Factory of 6 Hhds of Tobacco, and 3 Bales of Woollen Cloth, shiped on board the Streights-Merchant, Theophilus Thoroughpaid Master, for the proper Accompt and Risque of Nicol. Neapolitano, Merchant in Leghorn, and consigned to himself, marked and numbered as under. Contents, Costs, and Charges, *viz.*

Best bright Tobacco, 6 Hhds. *viz.*

	Cwt.	qr.	lb.	Tr.	qr.	lb.		Cwt.	qr.	lb.	Tr.	qr.	lb.
N° 1. Qt.	2	3	7	Tr.	2	14	N° 4. Qt.	4	1	27	Tr.	3	4
2. —	3	1	10	—	2	20	5. —	2	2	20	—	2	10
3. —	3	3	0	—	2	0	6. —	5	2	10	—	3	12
	9	3	17		1	3	6		12	3	1		2	0	26
	12	3	1										1	3	6

Tot. Tr. Cwt. 4 . 0 . 4

Total, Gr. 22 . 2 . 18
4 . 0 . 4

Cwt. 18 . 2 . 14

Suttle, 2086 *lb.*
Tret, 80

lb. 2006 Nt. at 7½d. ℔ Pound. ——— *l.*

Cloth, 3 Bales, *viz.*

N° 27, 28, 29. Qt. each 10 Short Cloths, at 12 *l.* ℔ Cloth. ——— *l.*

CHARGES.

		l.
Brought forward from Folio ult°.	—	*l.* 53 . 18 . 6
To Cuſtom of all	—	0 . 10 . 6
To Coſt of 3 Wrappers	—	2 . 2 . 3
Brokerage at 1½ ℔ Cent.	—	1 . 0 . 0
Storage	—	0 . 10 . 6
Cartage and Porterage	—	

To my Commiſſion, at 2½ ℔ Cent.   12 . 0 . 4

Errors excepted,   1492 . 16 . 4

℔ *Ship's Husband.*

Laus Deo, Lond. Aug. 4. 1764.

A LETTER of ADVICE. To Meſſieurs Edw. Martin and Tho. Harvey.

Hamburgh, April 10. 1764.

Sirs,

THIS is to adviſe you, that I have ſhiped on board the Marigold, John Getall Maſter, 10 Rolls of Oznabigs; 25 Barrels of Mum; and 16 Cwt. of Latten Wire, for your proper Accompt and Riſque; amounting to, as ℔ incloſed Invoyce, 5833 Marks Lubeck, at 16s. Lubeck each Mark. Ex° at 15 2s. Lubeck, for 20s. Sterling, from,

Your humble Servant,

Uᵣ James Jermyn.

This Conſignment makes in Sterl.   *l.* 614

[To Conſign Goods] Is when a Merchant, or Factor, ſends Goods directed to his Correſpondent or Imployer.

['To Consign Goods' Is when a Merchant, or Factor, sends Goods directed to his Correspondent or Employer.]

Bourdeaux, Anno 1764.

Dr

	Liv.	Sol.	Den.
Mr Valentine Austin,			
Oct. 20. To Cost and Charges of 20 Ps. of Prunes, with ¼ a Ton of Wine, shiped ⅌ the Canary-Merchant, John King Master, as ⅌ Invoyce sent	732	13	10
To my Bill of 70 Cr. 5 Sol. remitted him on Mr John Strong, at 1½ Usance, at 55¼ d. ⅌ Cr. is	240	5	0
Dec. 7. To Cost and Charges of 10 Ps. of Brandy, shiped ⅌ Edward Shaw, as ⅌ Invoyce	1291	1	6
Jan. 10. To Cost and Charges of one Tierce of White-Wine, ½ Hhd. of Vinegar, shiped on the Truelove of Yarmouth, Nich. Rope Master	44	15	0
To Postage of Letters to this Day	1	16	0
Feb. 16. To Balance transferred to your Credit in new Accompt	18	4	8
Liv.	2298	16	0

Errors excepted

Contra

Bourdeaux, Anno 1764.

Cr

	Liv.	Sol.	Den.
Oct. 30. By my Bill on him in Favour of Mr Francis Amot, of 312 Cr. 11 Sol. at 2 Usance, at 55¼ d. ⅌ Cr.	936	11	0
Dec. 14. By his Remittance at 10 Days Sight, of 270 Cr. on Messieurs Power and Jean Laroon	810	0	0
15. By his Remittance, at 8 Days Sight, 185 Cr. on Mr Richard Lee, of Rochel, negotiated at ¼ ⅌ Cent. Loss with Mr Strange	552	5	0
Liv.	2298	16	0

The 19th of Feb. 1764.

By your humble Servant,

Leonard Mouson.

Mr Anthony Fountain   Dr   l.

		Cwt. gr. lb.	Nt. at l.	
1764.				
Mar. 26.	To Raisins, 19 Barrels	wt. 72.2.3	Nt. at l.	1.16.0
Apr. 5.	To Figs, 12 Barrels	9.3.14		1.4.6
17.	To Sugar, 3 Hhds.	31.22.12		1.12.6
June 16.	To Currans, 3 Butts.	64.1.0		1.16.8
July 11.	To Tobacco, 5 Hhds.	17.1.15		5.10.7
Aug. 5.	To Wormseed, 1 Bale	15.2.22		2.14.6

Contra   Cr   l.

1764.			l.
Apr. 19.	By Cash, received of Capt. John Marlow		45.16.10
May 16.	By Ditto, for a Bill of 419 Gilders, Exchange at 34s. 6d. Flem.		
19.	By a Bill of 957 Liv. 10 Sol. Exchange at 57⅛d. ⅌ Crown		
June 14.	By Cash received of Mr Richard Perry		104.15.7
24.	By a Bank of England Note		76.10.0
	By Balance due to me		107.2.4

[An Accompt of Sales] Specifies the Sale of Goods received from your Imployer, with the Charges on Receipt, and their Net Proceed.

[An Accompt Current] is that wherein your Correspondent is made Dr for whatever he ought to make good, or allow, and Cr for what he ought to be allowed or made good to him; and is an Accompt that sums up the Heads of your Dealing with him, and decides how Affairs stand betwixt you, to the Time of its being made out.

RECREATION XVII.

(242) A Weight of 1½ *lb.* laid on the Shoulder of a Man, is no greater a Burden to him, than its abfolute Weight, or 24 Ounces: What Difference will he feel, between the faid Weight applied near his Elbow, at 12 Inches from the Shoulder, and in the Palm of his Hand, 28 Inches therefrom; and how much more muft his Mufcles then draw to fupport it at Right Angles; that is, having his Arm extended right out?

Anfwer, 24 *lb.* Avoirdupoiz.

(243) It is conceived, that the Effects or Degrees of Light, Heat, and Attraction, are reciprocally proportional to the Squares of their Diftances from the Center, whence they are propagated: Suppofing then, the Earth to be 81000000 Miles diftant from the Sun, I would know at what Diftance from him another Body muft be placed, fo as to receive Light and Heat, double to that of the Earth?

Anfwer, 57275650 Miles nearly.

(244) Suppofe with Dr Keil, the Diftance of the Sun to be from us 115 of his Diameters: How much hotter is it then at the Surface of the Sun, than under our Equator?

Anfwer, By 13225 Degrees.

(245) The Diftance between the Earth and Sun is accounted 81000000 of Miles; the Diftance between Jupiter and the Sun 424000000 of Miles: The Degree of Light and Heat received by Jupiter, compared with that of the Earth, is required?

Anfwer, $\frac{6561}{175776}$, or about $\frac{1}{27}$ of the Earth's Light and Heat.

(246) Mercury, the neareft of the Planets to the Source of Heat, Light and Life, in our Syftem appointed, the Sun, is about 32 Millions of Miles from him; Saturn, the remoteft of the Planets, is ufually diftant about 777 Millions of Miles: What Comparifon or Proportion is there between the Solar Influences on thefe two Bodies?

Anfwer, As 1024 to 603729.

(247) A

(247) A certain Body on the Surface of the Earth, weighs 112 *lb.* the Question is, whither this Body muſt be carried that it may weigh but 10 *lb.*

  Anſwer, To 3,3466 Semi-diameters from the Earth's
   Center.

(248) If a Body weighs 16 Ounces upon the Surface of the Earth, what will its Weight be 50 Miles above it, taking the Earth's Diameter at 7970 Engliſh Miles ?

  Anſwer, 15 Ounces, 9 Dr. $\frac{11312575}{16281225}$.

(249) The leſs porous a Body is, the greater its Denſity; now the Moon's Denſity or Compactneſs is to that of the Earth as 123½ to 100: What Proportion then is there between the Quantity of Matter in the Earth, and that in the Moon, ſince the Earth's Diameter is 7970 Miles, and that of the Moon 2170?

  Anſwer, There is 40$\frac{117}{1000}$ times more Matter in the
   Earth than in the Moon.

(250) There is a vaſt Country in Ethiopia Superior, to whoſe Inhabitants the Moon doth always appear to be moſt enlightened when ſhe is leaſt enlightened; and to be leaſt when moſt, according to the 21ſt Paradox of Gordon's Geographical Grammar; admitting the mean Diſtance of the Earth and Moon's Centers 240,000 Miles: In what Proportion is this Illumination ?

  Anſwer, The Side turned from the Earth, at the New,
   is more enlightened than that obverted to the Earth at
   Full, in the Proportion of 4152 to 4076 nearly.

(251) The Cubic Inch of Marble is 1,5688 *oz.* Avoirdupoiz; what Difference is there, in Point of Weight, between a Figure, containing a ſolid Foot and half of Stone, and another of equal Dimenſions in Braſs, 4,63 Ounces whereof make a Cubic Inch ?

      Anſwer, Cwt. 4 . 1 . 19.

(252) The Sum Total of any Rank of Numbers equally increaſing, is found by multiplying the Sum of the firſt and laſt, by half the Number of Terms.

How many Strokes do the Clocks of Venice (which go on to 24 o'Clock) ſtrike in the Compaſs of a natural Day ?

       Anſwer, 300.

(253) The Length of my Garden is 94 Feet; now if Eggs be laid along the Pavement a Foot aſunder, and be fetched up
           ſingly

singly to a Basket, removed one Foot from the last : How much Ground must he traverse that does it ?

Answer, 1 Mile, 5 Furl. 21 Pol. 3½ Feet.

(254) By multiplying 16 Feet, the Descent of an heavy Body, near the Earth's Surface, in one Second of Time, by as many of the odd Numbers, beginning from Unity, as there are Seconds in any given Time, *viz.* by 1 for the first; 3 for the second; 5 for the third; 7 for the fourth, and so on; the Sum total will give the Space it has passed, any where on this Side the Center of the Earth, in that Time : Suppose a Stone let go into an Abyss, should be stopped at the End of the 11th Second, after its Delivery, what Space would it have gone through ?   *Answer,* 1936 Feet.

It may also be proved, that the Velocities acquired by Bodies in falling, are in Proportion to the Squares of the Times in which they fall. For Instance, let go three Bullets together; stop the first at one Second, it will have passed 16 Feet as before: Stop the next at the End of the Second; it will have fallen four times 16 Feet, or 64; and stop the last at the third Second, and the Distance will be 144, or 9 times 16; and so forward.

(255) What then is the Difference between the Depth of 2 Wells, into each of which, should a Stone be droped at the same Instant, one will meet with the Bottom at 6 Seconds, the other at 10 ?   *Answer,* Difference 1024 Feet.

(256) If a Stone be 19½ Seconds in descending from the Top of a Precipice to the Bottom ; what is the Height of the same, according to the foregoing Canon ?

Answer, 1014 Fathoms.

On the contrary; to determine in what Time a heavy Body will, by Virtue of its natural Tendency towards the Center of the Earth, reach any Place assigned, on this Side of the same; say, as 16 Feet are to the Square of one Second, or 1, so is any given Distance, to the Square of the Seconds required.

(257) In what Time will a Musquet-Ball, droped from the Top of Salisbury-Steeple, said to be 400 Feet high, be at the Bottom ?   *Answer,* 5 Seconds.

(258) If a Hole could be bored through to the Center of the Earth, and the half Diameter of this Planet was proved to be 3923 times 5000 Feet; in what Time, after the Delivery of a heavy Body on its Surface, would it arrive at its Center ?

Answer, 18 Min. 27 Sec. $\frac{483}{2297}$.

S   (259) The

(259) The Length of Pendulums are to one another reciprocally as the Squares of the Number of their Vibrations, made in the same Space of Time. If then a Pendulum, 39,2 Inches long, in our Latitude, swings Seconds, or 60 times in a Minute; what Difference is there between the Length of one, that vibrates half Seconds, or 120 times in a Minute; and another that swings double Seconds, or 30 times in a Minute?
Answer, 12 Feet, 3 Inches.

(260) Again, What Difference will there be in the Number of Vibrations made by a Pendulum of 6 Inches long, and another of 12 Inches long, in an Hour's Time?
Answer, 2695,14.

(261) What Difference is there in the Length of two Pendulums, the one swings 30 Times, the other 100 Times in an Hour? *Answer*, 6036¼ Feet.

(262) Give the Length of a Pendulum that will swing once in a Third; Ditto in a Second; Ditto in a Minute; Ditto in an Hour; Ditto in a Day.
Answer, In a Third ,653 Inch; Second 39,2 Ditto; Minute 196 Feet; Hour 2 $\frac{4}{22}$ Miles; Day 53 $\frac{5}{11}$ Ditto.

(263) Observed, that while a Stone was descending to measure the Depth of a Well, a String and Plummet (that from the Point of Suspension, or the Place where it was held, to the Center of Oscillation, or that Part of the Bob, which being divided by a circular Line struck from the Center abovesaid would divide it into two Parts of equal Weight) measured just 18 Inches; had made 8 Vibrations: Pray what was the Depth, allowing (1150 Feet ℔ Second) for the Return of Sound to the Ear? *Answer*, About 400 Feet.

The Sum Total of any Rank of Numbers, not equally progressive, but multiplied from first to last, by one common Factor, may be universally found by multiplying the last of the Terms by the common Multiplier, and from the Product deducting the first Term, divide the Remainder by the said Multiplier less 1; the Quotient will be the Total sought.

(264) On New-Year's Day, a Gentleman married, and received of his Father-in-law a Guinea, on Condition that he was to have a Present on the first Day of every Month, for the first Year, which should be double still to what he had the Month before: What was the Lady's Portion?
Answer, 4299*l*. 15*s*.

(265) What

(265) What is an Annuity to expire in a Dozen Year worth, diſcounting 10 ℔ *Cent.* ℔ *Annum*, by compound Intereſt? *Anſwer*, 6 Years, 297 Days Purchaſe.

The Form of an Engliſh Bond, to which may be put any Condition.

KNOW all Men by theſe Preſents, That I [*Benjamin Bidfair* of Stepney, in the County of Middleſex, Rope-maker] am held and firmly bound to [*William Wellmeant*, of Sutton-Colefield, in the County of Warwick Eſq;] in One hundred Pounds, lawful Money of Great Britain; to be paid to the ſaid [*William Wellmeant*] his certain Attorney, Exe-cutors, or Adminiſtrators: For the Payment whereof, I bind myſelf, my Heirs, Executors and Adminiſtrators, firmly by theſe Preſents: Sealed with my Seal. Dated this [firſt Day of September] in the [Fourth] Year of the Reign of our Sove-reign Lord [George the Third] by the Grace of God, of Great Britain, France, and Ireland [King] Defender of the Faith, and ſo forth. And in the Year of our Lord [One thouſand Seven hundred and Sixty-four.]

A Condition for Money lent.

THE Condition of this Obligation is ſuch, That if the above bounden [*Benjamin Bidfair*] his Heirs, Execu-tors, or Adminiſtrators, do well and truly pay, or cauſe to be paid, unto the above-mentioned [*William Wellmeant*] his Executors, Adminiſtrators, or Aſſigns, the full Sum of [Fifty Pounds] of good and lawful Money of Great Britain, on the [Firſt Day of December] next enſuing the Date hereof, with lawful Intereſt for the ſame; then this Obligation to be void, or elſe to remain in full Force.

Sealed and delivered, (being first legally ſtamped) in   *Benjamin Bidfair*, (L. S.) Preſence of *A. B. C. D.*

When a Bond is given in Conſideration of the Value received, the Obligation is always to be made for double the Value in the Condition.

       The

The Dates of legal Instruments, Sums of Money, and the Number of all other Things specified in them, must be written in Words at length, never in Figures, for fear of Alterations. The Instruments themselves, as well as all Proceedings at Law, must be written wholly in English, according to a late Act of Parliament.

A CONDITION to stand to the AWARD of Arbitrators.

Jan. 1. 1764.

THE Condition of this Obligation is such, That if the above bounden [*Benjamin Bidfair* of London, Merchant] his Heirs, Executors, and Administrators, and every of them, do and shall in all Things well and truly stand to, obey, abide by, perform, fulfil, and keep the Award, Order, Arbitrement, final End and Determination of [*Anthony Aimwell*, and *Michael Makepeace* of London, Merchants] Arbitrators indifferently named, elected, and chosen, as well on the Part and Behalf of the above bounden, [*Benjamin Bidfair*] as of the above named [*William Wellmeant*] to arbitrate, award, order, judge, and determine of, and concerning all Manner of Action and Actions, Cause and Causes of Actions, Suits, Bills, Bonds, Specialties, Judgments, Executions, Extents, Accompts, Debts, Dues, Sum and Sums of Money, Controversies, Trespasses, Damages, and Demands whatsoever; at any Time or Times heretofore had, made, moved, brought, commenced, sued, prosecuted, done, suffered, committed, or depending by or between the said Parties, so as the Award may be made and given up in Writing, under their Hands and Seals, ready to be delivered to the said Parties, on or before the [first of February next ensuing the Date hereof.] But if the said Arbitrators do not make such their Award of and concerning the Premises, by the Time aforesaid, that then, if the said [*Benjamin Bidfair*] his Heirs, Executors, and Administrators, for his and their Parts and Behalf, do in all Things, well and truly stand to, obey, abide by, perform, fulfil, and keep the Award, Order, Arbitrement, Umpirage, final End, and Determination of [*Ferdinando Finishall* of London Esq;] Umpire indifferently chosen between the said Parties, to end the said Matter and Differences, so as the

said

said Umpire do make his Award or Umpirage of and concerning the Premises, and deliver the same in Writing, under his Hand and Seal, to the said Parties, on or before the [sixth Day of February] next ensuing the Date abovesaid: Then this Obligation to be void, or else to remain in full Force.

Sealed and Delivered, (being
   legally stamped) in the   *Benjamin Bidsair*, (L S.)
   Presence of, *A. B. C. D*

Both Parties are, in this Case, to be mutually bound to each other, and if there be no Umpire admitted, the latter Part of the Condition, beginning [But if the said Arbitrators] *is to be omitted.*

A Clause ought to be added to this Instrument, and signed by each Party, directing such Award to be entered and given as a Plea, in either of the King's Courts in Westminster, *in order to corroborate and render it final to them.*

The FORM of an UMPIRAGE of Award.

TO all People to whom this present Writing shall come: [I *Ferdinando Finishall*, of London Esq;] Umpire indifferently chosen between [*Benjamin Bidsair*, and *William Wellmeant* of London, Merchants] send Greeting. Now know ye, That I the said *Ferdinando Finishall*, having deliberately heard, considered, and understood the Griefs, Allegations, and Proofs of both the said Parties; and being willing, as much as in me lieth, to set the said Parties at Unity and good Accord, do by these Presents, Arbitrate, Award, Order, Deem, Decree, and Judge, that the said [*Benjamin Bidsair*] his Executors, Administrators, or Assigns, do and shall well and truly pay, or cause to be paid, unto the said [*William Wellmeant*] his Executors, Administrators, or Assigns, the full Sum of [One hundred Pounds] of lawful Money of Great Britain, on the [Seventeeth Day of March] next ensuing the Date of these Presents; and that upon Payment thereof, the said [*Benjamin Bidsair*, and *William Wellmeant*] shall, at their own proper Costs and Charges, seal, subscribe, and, as their several Acts and Deeds, deliver each to the other
a general

a general Releafe in Writing, of all Matters, Actions, Suits, Caufes of Actions, Bonds, Bills, Covenants, Controverfies, and Demands whatfoever; from the Beginning of the World, to the [Firft Day of May laft paft] and in the [Fourth] Year of our Sovereign [Lord GEORGE, King of Great Britain, &c.] In Witnefs whereof, I have hereunto fet my Hand and Seal, the [Fourth Day of February, in the Year of our LORD, One thoufand Seven hundred Sixty-four.]

Sealed and delivered (being
first duly ftamped) in   *Ferdinando Finifhall*, (L.S.)
Prefence of   *E. F.*
     G. H.

LETTER of LICENCE to a Debtor.

TO all People to whom this prefent Writing fhall come: We whofe Names are hereunder fubfcribed, and Seals affixed, Creditors of [*A. B.* of London, Merchant] fend Greeting. Whereas, the faid [*A. B.*] on the Day of the Date of thefe Prefents, is indebted unto us feverally, in divers confiderable Sums of Money; which at prefent he is not able to fatisfy unto us, without Refpite and Time to be given him for the Payment thereof: Know ye therefore, That we the faid Creditors, for divers good Caufes and Confiderations us thereunto moving, have given and granted, and by thefe Prefents do give and grant unto the faid [*A. B.*] our fure and fafe Conduct and free Licence, that he the faid [*A. B.*] fhall, and may fafely come and go, and refort unto us, and every one of us, his faid Creditors, to compound and take Order with us, and every one of us, for all and every of our faid Debts, and may go about any other Bufinefs, to any other Perfon or Perfons whatfoever, without any Trouble, Suit, Arreft, Attachment, or other Moleftation to be offered and done unto him, the faid [*A. B.*] his Wares, Goods, Monies, or other Merchandizes whatfoever, by us or any of us, or by the Heirs, Executors, Adminiftrators, Partners, or Affigns of us, or any of us, or by our, or any of our Means and Procurement, to be fought or procured to be done, from the Day of the Date hereof, unto the full End and Term of

[One

[One whole Year] next enfuing. And we the faid Creditors, whofe Names are here under-written, do hereby Covenant and Grant, and every one of us for his own Part, his Executors and Adminiftrators, covenanteth and granteth, to and with the faid [*A. B.*] that if any Trouble, Wrong, Damage, or Injury, fhall be done unto him the faid [*A. B.*] either in his Body, Goods, or Chattels, or any of them, within the faid Term of [One Year] next coming after the Date hereof, by us, or any of us, his faid Creditors, or by any other Perfon or Perfons, by or through the Procurement, Confent, or Knowledge of us, or any of us, contrary to the true Intent and Meaning of this our prefent Writing of fafe Conduct; that then the faid [*A. B.*] by Virtue of thefe Prefents, fhall be difcharged and acquitted for ever, towards and againft him and them, of us, his and their Heirs, Executors, Adminiftrators, Partners, or Affigns, and every one of them, by whom, and by whofe Means, he fhall be arrefted, troubled and attached, or damnified, of all Manner of Actions, Suits, Quarrels, Debts and Demands, either in Law or Equity, from the Beginning of the World, to the Day of the Date hereof: In Witnefs whereof, we have hereunto fet our Hands and Seals, the [Fourth Day of May, in the Year of our LORD, One thoufand Seven hundred and Sixty-four.]

Sealed and delivered, (being firft
  duly Stamped) in Prefence of,
    R. S.
    W. X.

A. B. (L.S.)	*R. D.* (L.S.)
C. D. (L.S.)	*P. Q.* (L.S.)
E. F. (L.S.)	*E. L.* (L.S.)
G. H. (L.S.)	*M. T.* (L.S.)
J. K. (L.S.)	*Y. Z.* (L.S.)
S. P. (L.S.)	*W. N.* (L.S.)
L. W. (L.S.)	

RECREATION XVIII.

(269) ONE at a Country Fair, had a Mind to a String of 20 fine Horfes; but not caring to take them at 20 Guineas *per* Head, the Jockey confented, that he fhould, if he thought good, pay but a fingle Farthing for
the

the firſt, doubling it only to the 19th, and he would give the 20th into the Bargain : This being preſently accepted, how were they ſold ?

Anſwer, at 27*l.* 6*s.* 1$\frac{11}{16}$*d.* each.

(270) What ought a Man to give down, in ready Money, for the Reverſion of 1000*l.* a Year, to continue 20 Years on a Leaſe, which cannot commence till five Years are at an End, allowing the Purchaſer compound Intereſt at 6 ₡ Cent. ?

Anſwer, 8571*l.* 7$\frac{1}{2}$*d.*

(271) A Minor of 14, had an Annuity left him of 70*l.* a Year, the Proceed of which, by Will, was to be put out, both Principal and Intereſt yearly, as it fell due, at 5 ₡ Cent. till he ſhould attain to 21 Years of Age. The utmoſt Improvement being thus made of this Part of his For- tune: What had he then to receive ?

Anſwer, 569*l.* 18*s.* 10*d.*

(272) Value the Leaſe of a Houſe in tolerable Repair, the Rent 54*l.* 17*s.* a Year ; the Ground Rent 7 Guineas ; 3 Years of it only to come ; the Rent payable every Six Months : Diſcompt ₡ compound Intereſt on this kind of Pur- chaſe, at 10*l.* ₡ Cent.

Anſwer, 120*l.* 10*s.* 11$\frac{1}{2}$*d.*

(273) A Fine for the Leaſe of a Tenement is ſettled at 153*l.* under a reſerved Rent of 16*l.* a Year : Now the Tenant cannot conveniently pay more than 50*l.* but for the 6 Years to come of the Term, is willing rather to pay an adequate Rent, computing 10*l.* ₡ Cent. ₡ compound Intereſt : What ought that Rent to be ?

Anſwer, 39*l.* 13*s.* ₡ Year.

(274) Another Leaſe for 7 Years is agreed for at 250*l.* Fine, on the old Rent 44*l.* a Year ; but conſidering the Contractor deſires to reduce the Rent to 20*l.* a Year, and pay a proper Fine, computing, as before, after the Rate of 10*l.* a Year : To what muſt the Fine be advanced ?

Anſwer, 366*l.* 16*s.* 9$\frac{1}{2}$*d.*

(275) Suppoſe I would add 5 Years to a running Leaſe of 15 Years yet to come, the improved Rent being 186*l.* 7*s.* 6*d.* ₡ Annum : What ought I to pay down for this Favour, diſcounting 4 ₡ Cent. ₡ compound Intereſt ?

Anſwer, 460*l.* 13*s.* 10*d.*

(276) Held

(276) Held of a College 486 *l.* 10 *s.* a Year on a reserved Rent of 94 *l.* Money being at 5 ℔ *Cent.* Interest: What Fine ought severally to be paid on a 7, a 14, and a 21 Year's Lease?

Answer, For 7 Years, 2271 *l.* 3 *s.*
14 Years, 3885 *l.* 4 *s.* 4 *d.*
21 Years, 5032 *l.* 6 *s.*

(277) A Son, previous to his Marriage, is minded to have 50 *l.* a Year, Freehold, settled on his Family; and, to have immediate Possession of it, offers his Father in lieu an Annuity for his Life, valued at 12 Years Purchase, discompting 4 ℔ *Cent.* thereon; whereas he is content the Estate should be valued at a Discompt of 3 ℔ *Cent.* and consequently will be worth 33⅓ Years Purchase: Pray what had the Father for his Life?

Answer, 177 *l.* a Year.

(278) A Gentleman took a College Lease of 237 *l.* a Year, for 21 Years, and paid the full Fine: The Rent reserved was 10 *l.* a Year; but when 4 Years were lapsed, against his Marriage he renewed the Lease, and filled up the 21 Years. In 14 Years after that his Wife dying, he again renewed it in Favour of his Daughter, then 7 Years of Age; and by the Time she was 19, it was a Third Time renewed, in order to her Settlement: The Question is, what Money the Society must have received from this Family from first to last, allowing 5 *l.* a Year Discompt on the Fines?

Answer, 4823 *l.* 18 *s.* 10¼ *d.*

1. If the Quantities of Matter in any two or more Bodies, put in Motion, be equal, the Forces wherewith they are moved, will be in Proportion to their Velocities.

2. If the Velocities of these Bodies be equal, their Forces will be directly as the Quantities of Matter contained in them.

3. If both the Quantities of Matter and the Velocities be unequal, the Forces with which Bodies are moved, will be in a Proportion compounded of the Quantities of Matter they contain, and of the Velocities wherewith they move.

(279) The Battering-Ram of Vespasian, weighed, suppose 100000 Pounds, and was moved, let us admit, with such a Velocity, by Strength of Hands, as to pass through 20 Feet

T   in

in one Second of Time, and this was found fufficient to demolifh the Walls of Jerufalem; with what Velocity muft a Bullet, that weighs but 30 *lb.* be moved, in order to do the fame Execution?

Anfwer, 66666 $\frac{2}{3}$ Feet in a Second.

(280) There are two Bodies, the one contains 25 times the Matter of the other, (or is 25 times heavier) but the leffer moves with 1000 times the Swiftnefs of the greater; in what Proportion are the Forces by which they are moved?

Anfwer, The lefs is moved with a Force 40 times greater than the other.

In comparing the Motions of Bodies, the Ratio, or Proportion between their Velocities, will be compounded of the direct Ratio of the Forces wherewith they are moved, and the reciprocal of the Quantities of Matter they contain.

(281) A Body weighing 20 *lb.* is impelled by fuch a Force as to fend it 100 Feet in a Second; with what Velocity would a Body of 8 *lb.* Weight move, if it were impelled by the fame Force?

Anfwer, 250 Feet in a Second.

(282) There are two Bodies, one of which weighs 100 *lb.* the other 60, but the leffer Body is impelled by a Force 8 times greater than the other; the Proportion of the Velocities wherewith thefe Bodies move is required?

Anfwer, The Velocity of the greater to that of the lefs, as 3 to 40.

(283) There are two Bodies, the greater contains 8 times the Quantity of the Matter in the lefs, and is moved with a Force 48 times greater; the Ratio of the Velocities of thefe two Bodies is required?

Anfwer, The greater to the lefs, as 6 to 1.

1. In comparing the Motions of Bodies, if their Velocities be equal, the Spaces defcribed by them fhall be in the direct Proportion of the Times in which they are defcribed.

2. If the Times be equal, then the Spaces defcribed will be as their Velocities.

3. If the Times and the Velocities be unequal, the Spaces will be in a Proportion compounded of the Times and Velocities.

There

(284) There are two Bodies, one of which moves 40 times swifter than the other; but the swifter Body has moved but one Minute, whereas the other has been in Motion two Hours: The Ratio of the Spaces described by these two Bodies is required?

Answer, The swifter to the slower, as 1 to 3.

(285) Again, supposing one Body to move 30 times swifter than another, as also the swifter to move 12 Minutes, the other only 1 : What Difference will there be between the Spaces by them described, supposing the last has moved 60 Inches?

Answer, 1795 Feet.

(286) In comparing of Motions as above, the Ratio of the Times is compounded of the direct Ratio of the Spaces described, and the reciprocal of the Celerities. There are two Bodies, one whereof has described 50 Miles, the other only 5; the first had moved with 5 times the Velocity of the second : What is the Ratio then of the Times they have been describing those Spaces?

Answer, As 2 to 1.

(287) When an heavy Body is weighed in any Fluid, it loses therein so much of its Weight, as an equal Bulk of that Fluid is found to weigh. Upon this Principle, suppose then, a cubic Inch of standard Gold in the Air, weighs 10 Ounces Troy, and that by Experiments, a solid Inch of fresh Water is found to weigh 256 Grains Troy : What will a gold Chain weigh in Water, that raises a Fluid an Inch in a Vessel 3 Inches square, when put into it?

Answer, 85 Ounces, 4 dwts.   In Air 90 Ounces.

(288) Again, as the cubic Inch of Silver is found to be about 4,444 Ounces Troy, lighter than one of Gold, supposing the Workman had adulterated the said Chain with 14 Ounces and a half of Silver: How much higher would the Water, upon its Immersion, have been raised in the said Vessel?

Answer,   ,12885 of an Inch higher than so much Gold.

(289) An irregular Piece of Lead Ore, taken from the Yorkshire Pit, weighs in the Scale just 12 Ounces, but weighed in Water loses 5 Ounces of that Weight; so that a Quantity of Water of the Bigness of the Ore weighs just

T 2   5 Ounces,

5 Ounces, as had been said. From the Derbyshire Pit, a rough Fragment of Ore weighs, out of Water, 14½ Ounces, and in Water 9 Oz. the comparative, or the specific Weight of these two Ores is required?

Answer, 145 to 132, or 12 to 11 in Favour of the second.

(290) An irregular Fragment of Glass in the Scale, weighs 171 Grains; another of Magnet 102 Grains. In Water the first fetches up no more than 120 Grains, and the other 79. Then 51 and 23 are the several Weights of their comparative Bulks of Water: What then will their specific Gravities turn out to be?

Answer, Glass is to Magnet, as 3933 to 5202, or nearly, as 10 to 13 reciprocally.

(291) Hiero, King of Sicily, ordered his Jeweller to make him a Crown, containing 63 Ounces of Gold. The Workman thought, substituting part Silver therein, a proper Perquisite; which taking Air, Archimedes was appointed to examine it, who, on putting it into a Vessel of Water, found it raised the Fluid, or that itself contained 8,2245 cubic Inches of Metal; and having discovered, that the cubic Inch of Gold more critically weighed 10,36 Ounces, and that of Silver but 5,85 Ounces, he, by Calculation, found what Part of his Majesty's Gold had been changed: And you are desired to repeat the Process.

Answer, ♉ Alligation 28,8 Ounces.

(292) In the Walls of Balbeck in Turkey, there are three Stones laid end to end, now in Sight, that measure in Length 61 Yards; one of which in particular is 63 Feet long, 12 Feet thick, and 4 Yards over: Now, if this Block was Marble, every cubic Inch of which is at least an Ounce and half in weight; what Power would balance it, so as to prepare it for moving?

Answer, 656 $\frac{1}{10}$ Tons, the Burden of a good East-India Ship.

(293) The cubic Inch of common Glass weighs about 1,36 Oz. Troy; ditto of Salt Water ,5427; and of Brandy ,48926 ditto. Suppose a Seaman hath a Gallon of this Liquor in a Glass Bottle, that weighs 3½ *lb*. Troy out of Water; and, to conceal it from the King's Officers, throws

it overboard: The Queſtion is, if it will ſink, how much Force would juſt buoy it up?

Anſwer, It is 12,8968 Ounces heavier than the ſame Bulk of Salt Water.

(294) Another of the Mariners has half an Anchor of Brandy, of the ſpecific Gravity above; the Caſk, ſuppoſe, meaſures ⅛ of a cubic Foot, and the ſolid Inch of Oak is known to be 192½ Grains Troy: What Quantity of Lead, 5,984 Ounces Troy to the cubic Inch, is juſt requiſite to keep the Caſk and Liquor under Water?

Anſwer, 84 Ounces Troy will juſt do it.

(295) The abſolute Weight of a Body floating in a Fluid, is preciſely equal to the Weight of ſuch Part of the Fluid as ſhall be thruſt away thereby and diſplaced, or, in other Words, to the immerſed Part of the Body: Suppoſe then it be by Meaſurement found, that a Man of War, with all its Ordnance, Rigging and Appointments, draws ſo much Water as to diſplace 1300 Tuns of Sea Water, weighing ,5949 of an Ounce Avoirdupois to the cubic Inch, and that the Meaſure be taken according to that of London Beer; the Weight of this Veſſel is required?

Anſwer, Cwt. 26287 . 2 . 19 . 9

A GENERAL RELEASE.

KNOW all Men by theſe Preſents, That I [*Henry Haveall*, of London, Founder] have remiſed, releaſed, and for ever quitted Claim, and by theſe Preſents, do for me, my Heirs, Executors, and Adminiſtrators, remiſe, releaſe, and for ever quit Claim, unto [*Lewis Lightpocket* Citizen and Lorimer of London] his Heirs, Executors, and Adminiſtrators, all and all manner of Actions, Cauſe and Cauſes of Actions, Suits, Bills, Bonds, Writings obligatory, Debts, Dues, Duties, Accompts, Sum and Sums of Money, Judgments, Executions, Extents, Quarrels, Controverſies, Treſpaſſes, Damages, and Demands whatſoever, both in Law and Equity, or otherwiſe howſoever; which againſt the ſaid [*Lewis Lightpocket*] I ever had, now have, and which I, my Heirs, Executors, and Adminiſtrators, ſhall, or may have,

have, claim, challenge, or demand, for or by Reason or Means of any Matter, Cause, or Thing, from the Beginning of the World, to the Day of the Date of these Presents. In Witness whereof, I have hereunto set my Hand and Seal, [this Tenth Day of June, in the Year of our LORD One thousand Seven hundred and Sixty-four.]

Signed, Sealed, Delivered,
   (being first legally stamped)   *Henry Haveall,* (L.S.)
in Presence of
           L. M.
           N. O.

A LETTER of ATTORNEY.

KNOW all Men by these Presents, That I [the Lady *Elizabeth Goring,* of the Parish of Hampton, in the County of Middlesex, Widow] have made, ordained, constituted, and appointed, and by these Presents do make, ordain, constitute, and appoint [*Edmund Wingate* of Gray's-Inn Esq; to be my true and lawful Attorney, for me, and in my Name, and for my Use, to ask, demand, and receive of, and from *Henry Long* of St Mary-le-bonne Esq; *Peter Randal* of Pancras Gent. *Philip Ryley* of Wandsworth, Dyer; and *Jeremiah Holcomb* of Islington, Innholder] their Executors, Administrators, or Assigns, as well all such Sum and Sums of Money as now are, or which shall, or may, at any Time hereafter become due and owing to me, for or on Account of Rent, for the respective Tenures, by them, or some of them now occupied and possessed; and upon Non-payment thereof, the said Person or Persons, his or their Executors and Administrators, for me, and in my Name, to sue, arrest, imprison, implead, and prosecute for the same, and upon such Suit to proceed to Judgment and Execution; and thereupon, the said Person or Persons, their or either of their Executors and Administrators, in Prison to hold and keep, until Payment thereof be made, with all Costs and Damages sustained, and to be sustained, by reason of the detaining of the same: And upon Payment thereof, the said

Person

Person and Persons, their and either of their Executors and Administrators, forth of Prison to discharge, and Acquittances for me in my Name to make, seal, and deliver ; and also to perform, pursue, and execute all and every such other lawful and reasonable Acts, Means, and Things whatever, both for recovering and discharging the same, as shall be needful to be done : Giving, and by these Presents, granting to my said Attorney, not only my full and absolute Power in the Premises himself, but also Power to substitute and appoint one or more Attorney or Attornies in his Stead, to act, execute, do, and perform all lawful Acts, Deeds, or Things, with relation to the Premises, and ratifying and holding firm all and whatsoever my said Attorney, or his Substitutes beforesaid, shall lawfully do, or cause to be done, in or about the Premises, by Virtue of these Presents. In Witness whereof, I have hereunto set my Hand and Seal [the Fourth Day of July, in the Year of our LORD One thousand Seven hundred and sixty-four.]

Sealed and Delivered, (being
  first legally stamped) in   *Eliz. Goring*, (L. S.)
  Presence of
      Y. Z.
      P. D.

The FORM of a WILL.

In the Name of GOD. Amen.

I [the Lady *Arabella Earnly*] of [Bromley, in the County of Kent, Widow] being of perfect Mind and Memory, make this my last Will and Testament : First, I desire to be privately buried [in the Parish Church of St Ann, in the Liberty of Westminster, and that the Charges of my Funeral may not exceed Forty Pounds.] My temporal Estate I bequeath and dispose of in the following Manner : Imprimis, [To my Daughter *Alice*, I bequeath the Sum of Two thousand Five hundred Pounds, my Indian Trunk, a Table Clock,
              and

and my Picture done by *Dahl.*]   Item, [To my Niece and
God-daughter, *Mary Peters,* I bequeath my Diamond Ring,
my Pearl Pendants set with Brilliants, and an Hundred
Pounds to buy her Mourning.]   Item, To Mr *William
Vernon,* my Coufin, I bequeath the Sum of One Guinea to
buy him a Ring.]   Item, [To the Poor of the Parish of
Bromley aforesaid, I bequeath the Sum of Ten Pounds to
be paid to the Minifter and Churchwardens, within Ten
Days after my Funeral, to be by them diftributed as they fee
good, among their faid Poor.]   The Refidue, and Remainder
of my Eftate, Lands, Tenements, Hereditaments, with my
Goods, Chattels, Plate and Jewels, India Bonds, Arrears
of Rent, with all other Properties of what kind foever, to
me appertaining, I give, devife, and bequeath [to my Son
Thomas] whom I conftitute and appoint [the whole and fole]
Executor of this my laft Will and Teftament; and I do
hereby utterly revoke, difallow, and difannul all former Be-
quefts, Wills and Legacies by me heretofore in any wife left
or made, declaring, ratifying, and confirming this, and no
other, to be my laft Will and Teftament: In Witnefs
whereof, I have hereunto fet my Hand and Seal, this [Firft
Day of May, in the Year of our LORD One thoufand Seven
hundred and Sixty-four.]

Signed, Sealed, Published,
    and Declared, by the
    within named Teftatrix
    [the Lady *Arabella Earnly*]
    to be her laft Will and   (*Arabella Earnly,* L.S.)
    Teftament, in Prefence of
    us, who fubfcribed our
    Names in Prefence of the
    faid Teftatrix and of each
    other,
                        C. D.
                        E. F.
                        I. H

*Three Witneffes are requifite to a Will, if it concern a real
    Eftate; which Witneffes are to fee each other fign it, as
    well as the Teftator. If the Eftate be perfonal only, two
    may do. The Law exempts Wills from being made on
    ftamped Paper.*

                                        A BILL

A BILL of SALE.

KNOW all Persons whom it may concern: That I [*Lazarus Lackcash* of **Norwich**, in the County of **Norfolk**, Goldsmith] for and in Consideration of the Sum of [Fifty Pounds] of lawful Money of Great Britain, to me in Hand paid by [*Dives Doubledun* of London, Esq;] the Receipt whereof I do hereby acknowledge, have bargained, sold, and delivered; and by these Presents, according to the due Form of Law, do bargain, sell, and deliver unto the said [*Dives Doubledun*, Four Caracts of Oriental Pearl; Nine Grains of Brait Diamonds; One Silver Teapot, weight Twenty Ounces; One Silver Salver, weight Ten Ounces; Two Sets of Silver Casters, weight Thirty Ounces; and Ten Cornelian Rings, sealed up, by Consent, with my Seal.] To have and to hold the said bargained Premises, unto the said [*Dives Doubledun*] his Executors, Administrators, and Assigns, for ever. And I the said [*Lazarus Lackcash*] for myself, my Executors, and Administrators, the said bargained Premises unto the said [*Dives Doubledun*] his Executors, Administrators, and Assigns, against all Persons, shall and will warrant, and for ever defend by these Presents: Provided nevertheless *, that if I the said [*Lazarus Lackcash*] my Executors, Administrators, and Assigns, or any of us, do and shall well and truly pay, or cause to be paid unto the said [*Dives Doubledun*] his Executors, Administrators, or Assigns, the Sum of [Fifty-one Pounds Five Shillings, as Principal and Interest] lawful Money of Great Britain, on the [First of November next ensuing the Date hereof] for Redemption of the bargained Premises; then this present Bill of Sale shall be void and of none Effect: But if Default be made in the Payment of the said [Fifty-one Pounds Five Shillings] in Part, or in the Whole, contrary to the Manner and Form beforesaid; that then it shall remain and be in full Force and Virtue. In Witness whereof, I have hereunto set my Hand and Seal, the [First Day of May, in the Year of our Lord, One thousand Seven hundred and Sixty-four]

Sealed and Delivered, (being
   first legally stamped) in
   Presence of   P. D.   *Lazarus Lackcash*, (L.S.)
            R. M.

* *If the bargained Premises be redeemable by a limited Time, a Proviso of this Nature is added.*

U   A WAR-

A WARRANT of ATTORNEY to confefs Judgment.

To [John Carpenter, John Davis, *and* John Hodges, Gent.] *Attorneys of His Majefty's Court of Common-Pleas, at Weftminfter*] *jointly and feverally, or to any other Attorney of the fame Court.*

THESE are to defire, and authorife you, the Attornies above-named, any of you, or any other Attorney of the Court of [Common-Pleas] aforefaid, to appear for me [*John Morris* of Yatton, in the County of Somerfet, Yeoman, in the faid Court of Common-Pleas, the next Trinity-Term, or any fubfequent Term] and then and there to receive a Declaration for me, in an Action of [Debt for Two hundred Pounds, befides Cofts of Suit] at the Suit of [*Robert Creyghton* of the Liberty of St Andrew in Wells, in the County aforefaid, Doctor of Divinity.] And thereupon to confefs the fame Action, or elfe to fuffer a Judgment, by *He faith nothing*, or *I am not informed*, or otherwife, to pafs againft me, in the fame Action, and to be thereupon forthwith entered up againft me of Record [in the fame Court of Common-Pleas.] And, for your fo doing, this fhall be to you, or any of you, or to any other Attorney as aforefaid, your, his, their, or any of their fufficient Warrant : In Witnefs whereof, I have fet my Hand and Seal, this [Twenty-fifth Day of February, One thoufand Seven hundred Sixty-four.

Sealed and Delivered, (being firft legally ftamped) in Prefence of   *John Morris,* (L. S.)

G. S.
R. M.

Note, *This Inftrument is of great Force and Validity, and wards off that Opprobrium of our Conftitution, the Expences and Delays of Law Proceedings ; efpecially if a Claufe be inferted, promifing no Writ of Error fhall be brought or profecuted upon it in Bar.*

A POLICY

A POLICY of ASSURANCE of a Ship and Cargo OUT and HOME.

KNOW all Men by these Presents, That *Clement Cautious*, of London, Merchant, as well in his own Name, as for and in the Name and Names of all and every other Person and Persons, whom the same may or shall concern, doth make Assurance, and hereby cause himself and them, and each of them, to be assured, lost or not lost, at and from the Port of London, to the Port of Alicant, in the Kingdom of Spain, and at and from thence back to London, upon all Kinds of Goods and Merchandizes, and also upon the Body, Tackle, Apparel, Ordnance, Munition, Artillery, Boat, and other Furniture, of and in the good Vessel, called The Bonny Tack, Burden Two hundred and Eighty Tons, or thereabout, whereof *Leonard Lookout*, for the present Voyage, is Master, beginning the Adventure upon the said Ship and Cargo, from and immediately following the Date hereof, and so to continue and endure, until the said Ship, with her said Wares and Merchandizes on board, her Tackle, Apparel, Ordnance, Munition, Artillery, Boat, and other Furniture, shall arrive at the Port of Alicant as aforesaid, and during her abode and stay there; and farther until the said Ship, with her Goods and Merchandizes on board, with all her Appointments and Furniture beforesaid, shall arrive back at the Port of London, and hath there moored at Anchor Four and twenty Hours in Safety, and upon the Goods and Merchandizes till they be there discharged and landed. And it shall be lawful for the said Ship in this Voyage, to proceed and sail to, and touch and stay at any Ports and Places whatsoever; especially at Lisbon and Gibraltar, without Prejudice to this Assurance. The said Ship and Cargo, for so much as concerns the Assureds, is and shall be rated and valued at Six thousand Five hundred Pounds Sterling, without farther Account to be given by the Assureds for the same. And touching the Adventures and Perils, which we the Assurers are content to bear, and do take upon us in this Voyage, they are of the Seas, Men of War, Fire, Enemies, Pirates, Rovers, Thieves, Jetzons,

U 2   Letters

Letters of Mart and Countermart, Surprisals and Takings at Sea, Arrests, Restraints, and Detainments of all Kings, Princes, and People, of what Nation, Condition, or Quality soever, Baratry of the Master and Mariners, and of other Perils, Losses, and Misfortunes, that have or shall come to the Hurt, Detriment, or Damage of the said Ship, Wares and Merchandizes on board her, or any Part thereof. And in case of any Misfortune, it shall be lawful for the Assureds, their Factors, Servants, and Assigns, to sue, labour, and travel for, in and about the Defence, Safeguard, and Recovery of the said Ship, Wares and Merchandizes, or any Part thereof, without Prejudice to this Assurance; to the Charges whereof, we the Assurers will contribute each of us according to the Rate and Quantity of his Sum herein insured. And so we the Assurers are contented, and do hereby promise and bind ourselves, each for his own Part, our Heirs, Executors, Goods, and Chattels, to the Assureds, their Executors, Administrators, and Assigns, for the true Performance of the Premises, confessing ourselves paid the Consideration due to us for this Assurance, by the said *Clement Cautious*, at and after the Rate of Two ⅌ *Cent*. and in case of Loss, to abate Ten ⅌ *Cent*. and to pay without farther Proof of any Interest whatsoever, more than this present Policy, any Use or Custom to the contrary notwithstanding. In Witness whereof, we the Assurers have subscribed our Names and Sums by us severally assured in London, as follows, viz.

I *A. B.* am contented with this Assurance, for One thousand Five hundred Pounds: Witness my Hand,   London,   } 1500*l.*
Day of   Anno 1764.
                 A. B.

I *C. D.* am contented with this Assurance, } 800*l.*
for Eight hundred Pounds, &c.
           C. D.

The Assureds choose to have this Business transacted by several Hands, when a private Assurance is taken, to have the more certain Security.

                              A S

A S Skill in Measuring is almost necessary to make young People competent Judges of general Business; and the casting up the Contents of such Things, as are the Subject of Geometry, is to be effected by Numbers, as well as any Calculation whatever, some few Examples, expressed in a familiar Way, for the Sake of the Beginner, are here subjoined; with Intention to give him a small Insight into this Affair, and to excite his Curiosity to look into Authors that have treated this useful and delightful Subject more at large : Mean time, the judicious Master will take the Trouble to delineate and explain the Figures intended by the Propositions, in order to assist his Pupil in the Conception of what he is about : And such Eye-draught will, in great Measure, point out, or suggest, the Method of Investigation.

RECREATION XIX.

SUPERFICIAL MEASUREMENT.

(296) WHAT is to be measured upon the Surface only, as Land, Glass, Painting, Flooring, Tyling, Paving, Plaistering, &c. if it be a four-sided Figure, whose opposite Sides are equal, multiplying the Length into the perpendicular Height, finds the superficial Content. And, consequently, the superficial Content, and any one of those Dimensions being given, the other of them will be found by simple Division.

The biggest of the Egyptian Pyramids, near Grand Cairo, being Square, and measuring according to Mr Greaves's Account, 693 Feet English on a Side: How many Acres then of Ground doth it stand on ?

Answer, Acres 11. Poles 4.

(297) What Difference is there between a Floor 28 Feet long, by 20 broad, and two others, that measure 14 Feet apiece by 10; and what do all Three come to, at 45 *s.* ℔ Square, viz. 10 Feet by 10 ?

Answer, 280 Sq. Feet Diff. Amount 18*l.* 18*s.*

(298) A rectangular four-sided Room measures 129 Feet 6 Inches about, and is to be Wainscotted, at 3 *s.* 6 *d.* ℔ Yard

Yard ſquare: After the due Allowances, for girt of Cornice and Members, it is 16 Feet 3 Inches high: The Door is 7 Feet by 3 Feet 9: The Window-Shutters, 2 Pair, are 7 Feet 3, by 4 Feet 6: The Cheek-boards round them, come 15 Inches below the Shutters, and are 14 Inches in breadth; The Lining-boards round the Door-way, are 16 Inches broad: The Door and Window-Shutters, being wrought on both Sides, are reckoned as Work and half, and paid for accordingly: The Chimney, 3 Feet 9, by 3 Feet, not being incloſed, is to be deducted from the ſuperficial Content of the Room; and the Eſtimate of the Charge is required?
Anſwer, 43 *l.* 4 *s.* 6 *d.*

(299) When a Roof is of a true Pitch, the Rafters are ¾ of the Breadth of the Building; now ſuppoſing the Eaves-boards to project 10 Inches on a Side: What will the new ripping an Out-houſe coſt, that meaſures 32 Feet 9 Inches long, by 22 Feet 9 Inches broad upon the Flat, at 15 *s.* ⅌ Square?
Anſwer, 8 *l.* 15 *s.* 9½ *d.*

(300) If my Court-Yard be 47 Feet 7 Inches ſquare, and I have laid a Foot-way of Purbeck Stone, 4 Feet wide, along one Side of it: What will paving the reſt, with Flints, come to, at 6 *d.* ⅌ Yard ſquare? *Anſwer,* 5 *l.* 15 *s.* 2¼ *d.*

(301) A ſquare Cieling contains 114 Yards 6 Feet of Plaiſtering, and the Room 28 Feet broad: What was the Length of it? *Anſwer,* 36⅗ Feet.

(302) An Elm Plank is 14 Feet 3 Inches long, and I would have juſt a Yard ſquare ſlit off: At what Diſtance from the Edge muſt the Line be ſtruck? *Anſwer,* 7 $\frac{20}{171}$ Inches.

(303) Having a rectangular Marble Slab, 58 Inches by 27, I would have a Foot ſquare cut off, parallel to the ſhorter Edge; I would then have the like Quantity divided from the Remainder, parallel to the longer Side; and this alternately repeated, till there ſhould not be the Quantity of a Foot left: What will the Dimenſions of the Remnant be?
Anſwer, 20,7 Inches by 6,086.

(304) Being about to plant 10584 Trees equally diſtant in Rows, the Length of the Grove muſt be 6 times the Breadth: How many of the ſhorter Rows will there be?
Anſwer, 252 Rows, viz. ½ of the Trees are to form an exact Square, the Side whereof ſhews how many of them come into a ſhort Row.

(305) A

(305) A common Joist is 7 Inches deep, and 2½ thick; but I want a Scantling just as big again, that shall be three Inches thick: What will the other Dimension be?

Answer, 11⅔ Inches.

(306) I have a square Girder 19 Inches by 11; but one of a quarter of the Timber in it, provided it be 9 Inches deep, will serve: How broad will it be?

Answer, 5 20/18 Inches.

(307) I have a Wooden Trough, that at 6 *d.* ℞ Yard, cost me 3 *s.* 2 *d.* Painting within; the Length of it was 102 Inches, the Depth 21 Inches: What was its Breadth?

Answer, 2 Feet, 3¼ Inches.

(308) My Plummer has put 28 *lb.* ℞ Foot square into a Cistern 74 Inches and twice the thickness of the Lead long, 26 Inches broad, and 40 deep; he has put three Stays within across it 16 Inches deep, of the same Strength, and reckons 22 *s.* ℞ Cwt. for Work and Materials: I being a Mason, have paved him a Work-shop, 22 Feet 10 Inches broad, with Purbeck Stone, at 7 *d.* ℞ Foot, and upon the Balance, I find there is 3 *s.* 6 *d.* due to him: What was the Length of his Work-shop?   *Answer*, 31 Feet, 9¼ Inches.

(309) The rectangular powdering Trough of a Man of War measures 27 square Feet 112 Inches, the Depth is 20 Inches, the Breadth 16: The Length is sought?

Answer, 5 Feet.

(310) In 110 Acres of Statute-Measure, in which the Pole is 16½ Feet long, how many Cheshire Acres, where the customary Pole is 6 Yards long? and how many Yorkshire, where the Pole in use is 7 Yards in Length?

Answer, Cheshire Acres, 92 . 1 . 28.
Yorkshire Acres, 67 . 3 . 25.

(311) I would set 3584 Plants in Rows, each 4 Feet asunder, and the Plants 7 Feet apart, in a rectangular Plot of Ground: What Land will this take up?

Answer, 2 Acres, 48½ Poles.

(312) A triangular, or three-sided Figure, (being the half of a four-sided one of the same Height and Length) if you multiply the Base, or longest Side, by the shortest Height, you have double the Content.

A triangular Field, 738 Links long, and 583 in the Perpendicular, brings in 12 *l.* a Year: What is it set at an Acre?

Answer, 5 *l.* 11 *s.* 6¾ *d.* nearly.

(313) The End-Wall of an House is 24 Feet 6 Inches in breadth, and 40 Feet to the Roof; ⅓ of which is 2 Bricks thick; ⅓ more, 1½ Brick thick; and the reſt 1 Brick thick: Now the Gable riſes 38 Courſe of Bricks (4 of which uſually make a Foot in depth) and this is but 4 Inches, or half a Brick thick: What will this Piece of Work come to, at 5*l*. 10*s*. ⅌ Statute Rod, the Dimenſions of which are given Page 52 of this Treatiſe?

Anſwer, 20*l*. 11*s*. 7½*d*. nearly.

(314) When the Perpendicular of a Triangle cannot readily be taken, the Content may be found by the Meaſure of the Sides, thus: Subtract each of the three Sides, from half the Sum of the three Sides ſeverally; then multiply the ſaid half Sum, with the three Differences found, continually; and the ſquare Root of the Reſult, ſhall be the Area or Content of the Triangle ſought.

Having a Fiſh-pond of a triangular Form, whoſe three Sides meaſure 400 Yards, 348, and 312: What Quantity of Ground does it cover?

Anſwer, 52284½ ſquare Yards.

(315) The Quarry of Glaſs 3¾ Inches on every Side, and as much croſs the Middle, coſts 1*d*. the Square is 5¼ Inches, by 3½, and coſts 1½*d*. What will be ſaved, glazing 1000 Feet, the cheaper of the two Ways; ſuppoſing the Leading of the Lights to be nearly equal in either kind of Work?

Anſwer, 5 *s*. 10*d*.

(316) Every other right-lined Figure, be it regular or not, may be divided into Triangles; the Sum of whoſe Areas is the Content; for Example,

A Piece of Garden-Box lies in Form of a regular Pentagon, or Figure of five equal Sides, each 48 Feet; and from the Center of the Figure, to the Middle of one of theſe, it meaſures 41,57 Feet nearly. The Area of the Figure will be the Content of theſe five Triangles: Pray what is that?

Anſwer, 4988,4 Feet.

(317) The Square of the Hypothenuſe, or the longeſt Side of a right-angled Triangle, is equal to the Sum of the Squares of the

the other two Sides, and consequently the Differences of the Squares of the Hypothenuse, and either of the other Sides, is the Square of the remaining Side.

I want the Length of a Shoar, that being to ſtrut 11 Feet from the Upright of a Building, will ſupport a Jamb 23 Feet 10 Inches from the Ground?

Anſwer, 26 Feet, 3 Inches nearly.

(318) A Line 27 Yards long, will exactly reach from the Top of a Fort, on the oppoſite Bank of a River, known to be 23 Yards broad: The Height of the Wall is required?

Anſwer, 42 Feet, 5 Inches.

(319) Two Ships ſet Sail from the ſame Port, one of them goes due Eaſt, 50 Leagues; the other due North, 84: How far are they then aſunder?

Anſwer, 97¼ Leagues.

(320) The Height of an Elm, growing in the Middle of a circular Iſland, 30 Feet in Diameter, plumbs 53 Feet, and a Line ſtretched from the Top of the Tree, ſtraight to the hither Edge of the Water, 112 Feet: What then is the Breadth of the Moat, ſuppoſing the Land on either Side the Water to be level?

Anſwer, 83¾ Feet.

(321) Suppoſe a Light-houſe built on the Top of a Rock; the Diſtance between the Place of Obſervation, and that Part of the Rock level with the Eye, and directly under the Building, is given 310 Fathoms; the Diſtance from the Top of the Rock, to the Place of Obſervation, is 423 Fathoms; and from the Top of the Building 425: The Height of the Edifice is required?

Anſwer, 17 Feet, 7 Inches, nearly.

(322) A Ladder 40 Feet long, may be ſo planted, that it ſhall reach a Window 33 Feet from the Ground, on one Side the Street; and without moving it at the Foot, will do the ſame by a Window 21 Feet high, on the other Side: The Breadth of the Street is required?

Anſwer, 56$\frac{6}{10}$ Feet.

(323) An ancient Bath was found, of a triangular Form, the Sum of whoſe Three equal Sides was 125 Feet: The Area of the Bottom is required?

Anſwer, 752 ſquare Feet.

(324) The paving of a triangular Court, at 18*d.* ℈ Foot, came to 100*l.* the longeſt of the three Sides was 88 Feet: What then was the Sum of the other two equal Sides?

Anſwer, 106,85 Feet.

X

(325) I would plant 10 Acres of Hop-Ground, which muſt be done, either in the ſquare Order as the Number 4 ſtands on the Dice, or in the quincunx Order, as the Number 5; the three neareſt Binds, in both Caſes, muſt be ſet lineally juſt 6 Feet aſunder: How many Plants more will be required, for the laſt Order than for the firſt; admitting the Form of the Plot to lay the moſt advantageous for the Plantation in either Caſe?

    Anſwer, 1872, nearly. Every Plant in the ſquare Order will require the Space of 36 ſquare Feet, and in the Quincunx 31,177. In Practice they leave a Verge of 6 Feet all round the Plot, which in this Calculation is not conſidered.

(326) A Summer-houſe is a Cube of 10 Feet in the clear, the Cornice of which projects juſt 15 Inches on a Side, and being of Timber and Stucco, the Sides are 6 Inches thick, ſo that the whole Front of the Roof, from out to out, is $13\frac{1}{2}$ Feet. This is hipped from each of the Corners to the Center, and being truly Pediment-pitch, it riſes $\frac{2}{9}$ of the Front, or 3 Feet. I would, by help of theſe Dimenſions, meaſure the Slating, without venturing to climb for more, and compute the coſt at $3\frac{1}{4}$ d. ℔ ſquare Foot. This may be done by firſt diſcovering what the diagonal Line on the Flat is tranſverſely from the Corner. And, ſecondly, from thence and the perpendicular Riſe of the Roof, the Length of each of the 4 principal Rafters. And then, thirdly, from the Breadth of the Front given, a Perpendicular may be found, which will determine the Coſt of this Piece of Work to be 2*l*. 18*s*. 2*d*. nearly.

(327) There are two Columns in the Ruins of Perſepolis, left ſtanding upright; one is 64 Feet above the Plane, the other 50: Between theſe, in a right Line, ſtands an ancient Statue, the Head whereof is 97 Feet from the Summit of the higher, and 86 Feet from the Top of the lower Column; the Baſe whereof meaſures juſt 16 Feet to the Center of the Figure's Baſe: By theſe Notices, the Diſtance of the Top of the Columns may be, by Numbers, eaſily found?

    Anſwer, 157 Feet nearly.

(328) A triangular Bath, 6 Feet deep, is exactly incloſed by 3 ſquare Pavilions, and rectangular, the Sum of whoſe Plans, together, make juſt 50 Poles: The Area of *A* the leſs, is to that of *B* the middle one, as $4\frac{1}{2}$ to 8; and the Sum of the Areas of *A* and *C* the biggeſt, is to that of *B* as $8\frac{1}{2}$ to 4: How many Wine Hogſheads of Water will this Bath receive?

    Anſwer, 1163 Hogſheads, $47\frac{1}{2}$ Gallons.

(329) A four-sided Figure, whose Sides are unequal, is called a Trapeze: I have an Orchard of that Form, containing 3¼ Acres, which being divided by a Diagonal, or a Line, from Corner to Corner, the Perpendicular of one of the Triangles is 430 Links, and the other 360: The Length of the said Diagonal, or common Base of those Triangles, is required?

Answer, 949 $\frac{72}{85}$ Links.

The Areas of Circles are found either by multiplying half the Circumference by half the Diameter, or by multiplying the Square of the Diameter by ,7854, that being the Area of the Circle, whose Diameter is 1.

(330) Give the Area of a circular Bowling-Green, that is 16 Poles a-cross the Middle; the Circumference being 3,1416 times the Diameter of a Circle?

Answer, 1 Acre, 41 Poles, &c.

(331) The surveying Wheel is so contrived, as to turn just twice in the Length of a Pole, or 16½ Feet: What then is its Diameter? *Answer,* 2,626 Feet.

(332) I would turf a round Plot, measuring 130 Feet about, and would know the Charge at 4 d. ⅌ Yard square?

Answer, 2 l. 9 s. 10 d. nearly.

(333) I want the Length of a Line, by which my Gardener may strike a round Aurangerie, that shall contain just half an Acre of Land? *Answer,* 27¾ Yards, nearly.

(334) Agreed for an oaken Curb to a round Well, at 8 d. ⅌ Foot square; it is exactly 42 Inches in Diameter, within the Brick-work, and the Breadth of the Curb is to be 14½ Inches: What will it come to? *Answer,* 11 s. 11 d. nearly.

(335) It is observed, that the extreme End of the Minute-hand of a public Dial, moves just 5 Inches in the Space of 3¼ Minutes: The Question is, what is the Length of that Index? *Answer,* 14,69 Inches.

(336) A. B. C. join for a Grindstone 36 Inches over, va-lue 20 s. toward which A. paid 7 s. B. 8 s. and C 5 s. The Waste-hole, through which the Spindle passed, was 5 Inches square: To what Diameter ought the Stone to be worn, when B. and C. begin severally to work with it? Begin your Cal-culation from the Center.

Answer, For B. to 29,324 Inches;
for C. to 19,013 Inches.

(337) As the Diameter of a Circle, is the only neceſſary Dimenſion to find the greateſt Square that may either be inſcribed, or the ſmalleſt that may be circumſcribed : I demand what Difference there is in the Area of the Section of a round Tree, 20 Inches over, conſidered both thoſe ways ; and how far the Reſult, from each of thoſe Dimenſions, differs from the Truth in the circular Meaſure ?

Anſwer, Within 114,16 Inches too little.
Without 85,84 Inches too much.

(338) Having paved a Semi-circular Alcove with black and white Marble, at 2 *s.* 4 *d.* ₩ Foot, the Maſon's Bill was juſt 10 *l.* what then was this Arch in Front, conſidering, that as ,7854, the Area of the Circle, the Square of whoſe Diameter is 1, ſo is the Area of any other Circle to the Square of its Diameter?   *Anſwer,* 14 Feet, 9 Inches.

(339) What Proportion is there between the Arpent of France, which contains 100 ſquare Poles, of 18 Feet each, and the Engliſh Acre, containing 160 ſquare Poles, of 16½ Feet each, conſidering that the Length of the French Foot is to that of the Engliſh, as 16 to 15.
Anſwer, As 13 to 11 nearly.

(340) In turning a one Horſe Chaiſe within a Ring of a certain Diameter, it was obſerved, that the Outer Wheel made two Turns while the Inner made but one : The Wheels were equally high, and ſuppoſing them fixed at the ſtatutable Diſtance, or 5 Feet aſunder on the Axletree: Pray what was the Circumference of the Track deſcribed by the Outer Wheel?
Anſwer, 63 Feet, nearly.

Multiplying half the Arch by half the Diameter, alſo finds the Area of a Sector; that is, any Part of a Circle cut through from the Center to the Circumference.

(341) The Area of a Sector (ſuppoſe one of the Diviſions of a Wilderneſs) which being ſtruck from a Center, with a Line 30 Yards long, makes the Sweep, or circular Part, 63 Feet, is required ?   *Anſwer,* 315 Yards.

(342) The Curvature of one of theſe Sectors being parted off by a ſtraight Line, drawn through its Limits, leaves a Segment of a Circle, to be meaſured, by deducting the Content of the Triangle, cut off from the Area of the whole Sector, to diſcover the Area of the Segment.

The

The Propofition above may ferve as an Example to this, allowing the Chord, or ftraight Line, drawn through the two Ends of the Curve (as it will be found) about 15 Inches fhorter than the arched Line abovefaid.

Anfwer, Content of the Segment 25 Yards, nearly.

An Ellipfe, or Oval, is meafured by multiplying the Product of the long and fhort Diameters by ,7854, as in the Circle, and this will give the fuperficial Content.

(343) The Ellipfe in Grofvenor-Square meafures 840 Links the longeft Way, and 612 acrofs, within the Rails; the Walls are 14 Inches thick; what Ground do they inclofe, and what do they ftand upon?

Anfwer, Inclofe 4 Acres, 6 Poles.
Wall ftands on 1758¼ fquare Feet, nearly.

The Dimenfions of all fimilar Figures are in Proportion to their Areas, as the Squares of their refpective Sides, *et contra*.

(344) If a round Pillar, 7 Inches over, has 4 Feet of Stone in it, of what Diameter is the Column, of equal Length, that meafures ten times as much?

Anfwer, 22,136 Inches over.

(345) A Pipe of fix Inches Bore will be 3 Hours in running off a certain Quantity of Water: In what time will 4 Pipes, each 3 Inches Bore, be in difcharging double the Quantity? *Anfwer*, 6 Hours.

(346) A Yard of Rope 9 Inches round weighs, fuppofe, 22 *lb*. what will a Fathom of that weigh, which meafures a Foot about? *Anfwer*, 78⅔ *lb*.

(347) If 20 Feet of Iron Railing fhall weigh half a Ton, when the Bars are an Inch and Quarter fquare, what will 50 Feet of ditto come to, at 3½ ₰ Pound, the Bars being but ⅞ of an Inch fquare? *Anfwer*, 20 *l*.

(348) A Looking-glafs is 16 Inches by 9, and contains a Foot of Glafs: What will the Content of the Plate be that has twice the Length, and three times the Breadth?

Anfwer, 6 Square Feet.

(349) A Sack that holds Three Bufhels of Corn is 22½ Inches broad when empty: What would the Sack contain that, being of the fame Length, had twice its Circumference, or twice its Breadth? *Anfwer*, A Quarter and a Half.

(350) My

(350) My Plumber has set me up a Cistern, and his Shopbook being burnt, he has no Means of bringing in the Charge, and I do not chuse to take it down to have it weighed; but by Measure he finds it contains 64 square Feet $\frac{7}{8}$, and that it is $\frac{1}{4}$ of an Inch precisely in Thickness. Lead was then wrought at 21 *l.* $\text{\P}$ Fodder. Let the Accomptant, from these Items, make out the poor Man's Bill, considering farther, that $4\frac{9}{11}$ *oz.* is the Weight of a cubic Inch of Lead?

Answer, 9 *l.* 2 *s.* 1 *d.*

RECREATION XX.

Measurement of Solids.

MULTIPLY the Area by the Depth, to find the Solidity of uniform Bodies, or such as are equal from Top to Bottom.

(351) What is the Difference of a solid half Foot, and half a Foot solid?

Answer, One is but $\frac{1}{4}$ of the other.

(352) What is the Proportion, in Point of Space, between a Room 25 $\frac{1}{2}$ Feet long, 20 Feet 2 Inches broad, 14 Feet high, and Two others of just $\frac{1}{2}$ the Dimensions?

Answer, As 4 to 1.

(353) Another Room is 17 Feet 7 Inches long within, 13 Feet 10 Inches broad, and 9 Feet 6 Inches high; it has a Chimney carried up straight in the Angle, the Plan whereof is just the half of 5 Feet 6 Inches, by 4 Feet 2: The Question is, how many cubic Feet of Air the same will contain, allowing the Content of the Fire-place and Windows at 4 solid Yards?

Answer, 2309 Feet, 10 $\frac{2}{3}$ Inches.

(354) A Ship's Hold is 112 Feet 6 Inches long, 32 broad, and 5 Feet 6 deep: How many Bales of Goods, 3 Feet 4 Inches long, 2 Feet 4 Inches broad, and 3 Feet deep, may be stowed therein, leaving a Gang-way the whole Length of 4 Feet and $\frac{1}{2}$ broad?

Answer, The Quantity of 729 $\frac{1}{2}$, nearly.

(355) I

(355) I want a rectangular Ciſtern, that at 16 *lb.* to the Foot ſquare ſhall weigh juſt a Fodder of Lead, it muſt be 8 Feet long, and 4¼ over: How many Hogſheads, Wine-meaſure will this contain, taking it at ¼ of an Inch from the Top? *Anſwer*, 16 Hogſheads, 40 Gallons.

(356) A Log of Timber is 18 Feet 6 Inches long, 18 Inches broad, and 14 thick, Die-ſquare all through: Now, if 2 ſolid Feet and ½ be ſawed off the End, how long will the Piece then be? *Anſwer*, 17 Feet ⁷¹⁵⁄₁₀₀₀₀.

(357) The ſolid Content of a ſquare Stone is found to be 126¼ Feet, its Length is 8 Feet 6 Inches: What is the Area of one End, and what the Depth, if the Breadth aſſigned be 38½ Inches? *Anſwer*, 55,55 Inches deep.

(358) The Dimenſions of the circular Wincheſter Buſhel are 18½ Inches over, and 8 Inches deep: How many Quarter of Grain then will the ſquare Bin hold, that meaſures 7 Feet 10 long, 3 Feet 10 broad, and 4 Feet 2 deep within? *Anſwer*, 12, &c.

(359) Taking the Dimenſions of the Buſhel, as above, what muſt the Diameter of the circular Meaſure be, which at 12 Inches deep will hold 9 Buſhels of Sea-coal ſtruck? *Anſwer*, 45 Inches ³⁄₁₀.

(360) A Priſm of two equal Baſes, and ſix equal Sides, that meaſures 28 Inches croſs the Center, from Corner to Corner: The ſuperficial and the ſolid Content is required, taking the Length at 134 Inches? *Anſwer*, Superf. 9 Yards, 4 Feet, 3 Inches. Solid 39 Feet, 843 Inches.

(361) I have a rolling Stone 44 Inches in Circumference, and am to cut off three cubic Feet from one End: Whereabouts muſt the Section be made? *Anſwer*, At 33,66 Inches.

(362) I would have a Syringe an Inch and ¼ in the Bore, to hold a Pint Wine-meaſure of any Fluid: What muſt the Length of the Piſton, ſufficient to make an Injection with it, be? *Anſwer*, 23,5294 Inches.

(363) I would have a cubic Bin made capable of receiving juſt 13½ Quarters of Wheat, Wincheſter Meaſure: What will be the Length of one of its Sides? *Anſwer*, 61,4678 Inches.

(364) A

(364) A Bath Stone, 20 Inches long, 15 over, and 8 deep, weighs 220 *lb.* how many cubic Feet thereof will freight a Ship of 290 Tons?   *Anſwer,* 4101 Feet.

(365) The common Way of measuring Timber, being to girt a round ſtraight Tree in the Middle, and to take ¼ of the Girt for the Side of a Square, equal to the Area of the Section there; if this be not conſidered in the Price appointed, pray on which Side lies the Advantage?

Anſwer, For the Buyer, near 13 Feet in a Load.

(366) The Cylinder, Globe, and Cone, are in Proportion to one another, as 3, 2, and 1. The Cube therefore of the Diameter, of any Cylinder of equal Height and Breadth, multiplied ,7854, the Area of the Circle whoſe Diameter is 1, will always give the Solidity of that Cylinder. The Cube of the Diameter of a Globe again multiplied by ⅔ thereof, or ,5236, gives the ſolid Content. And the ſaid Cube, multiplied by ⅓ of that, or ,2618, produces in general the Solidity of any Cone whoſe Breadth and Height are equal. By this Rule the ſolid Content of a Globe, 20 Inches in Diameter, a Cylinder of the ſame Diameter, 20 Inches long; and a Cone 20 Inches Diameter at Baſe, and 20 Inches high, are ſeverally required?

Anſwer, Cone, 2094,4. Globe, 4188,8.
Cylinder, 6283,2.

The ſuperficial Content of theſe is found by conſidering the Cylinder, as a ſquare Surface 20 Inches by the Circumference, adding a double Area for the two Baſes. The Globe, as a Rectangle of the Diameter and Circumference; and the Cone, as a Triangle, whoſe Baſe is the Circuit, and Perpendicular the ſlope Height, adding once the Area of the Baſe. At 8 *d.* ℔ Yard, the Painting of them is found to amount to 2 *s.* 1 ⅘ *d.*

(367) Our Satellite the Moon is a Globe in Diameter 2170 Miles; I require how many Quarters of Wheat ſhe would contain, if hollow, 2150 7/16 ſolid Inches being the Buſhel; and how much Yard-wide Stuff would make her a Waiſtcoat was ſhe to be clothed?

Anſwer, Content 79107034948470144000 Quarters.
Surface 45824284391424 Yards ſquare.

(368) Suppoſing the Atmoſphere, or Body of the Air and Vapours, ſurrounds the Globe of the Earth and Sea, to 60 Miles above the Surface; the Earth is 7970 Miles in Diameter; how

how many cubic Yards of Air then hang about, and revolve along with this Planet; and what is the Weight of the whole Mass of fluid Matter in the Atmosphere contained, if at a Medium 12 *lb.* Avoirdupois be found experimentally, as in Fact it is, to press upon every circular Inch, on the Surface of the Earth ?

Answer, Measure 662642542741487 61600 solid Yards, Weight 122401916367766672000 Pds. Avoirdupois.

(369) A Cork may be cut into such a Form, that it may, without Alteration, severally fill the Cavity of a Circle an Inch in Diameter, of an equilateral Triangle, whose Sides are each an Inch, and a geometrical Square, also an Inch on a Side: What must be the Shape ?

Answer, It will be a Wedge, whose Base, being circular, will fill the Round: The Ridge-Front will replenish the Square, and the End-Section make out the Triangle.

When Figures run uniformly taper (but not to a Point) they are to be considered as Frustrums or Portions of the Cone or Pyramid; by supplying therefore what is wanting to make the Figure entire, and then deducting the Part cut off, we find the Solidity of the Part proposed.

(370) A round Mash-Vat measures at the Top 72 Inches over within, at the Bottom 54, the perpendicular Depth being 42 Inches; the Content in Ale Gallons is required ?

In order to complete the Cone; use this Analogy: As half the Difference of the Top and Bottom 9 Inches, are to the Depth 42 Inches, so is half the greater Diameter 36 Inches, to the Altitude of the whole Cone.

Answer, It holds Gall. 467, and almost an half.

Or else; to the Areas of the Top and Bottom, add the square Root of the Products of those Areas, and this multiply by $\frac{1}{3}$ of the Height of the Frustrum, for the Solidity.

The Shaft of a round Pillar, 16 Inches in Diameter at the Top, is about 8 of the Bottom Diameters in Height, $\frac{1}{3}$ whereof is truly cylindrical, and the other $\frac{2}{3}$ swelling, but we will suppose it tapers straight; it is $\frac{1}{6}$ less at Top than at Bottom; the Price of the Stone and Workmanship is sought at 3*s.* 6*d.* $\oplus$ cubic Foot; and farther, the superficial Content, including both Ends ?

Answer, 3*l.* 10*s.* 4$\frac{1}{2}$*d.* &c. Superf. 61$\frac{1}{10}$ Feet.

(372) A triangular Pyramid, whose Sides, at Base, mea-
sure 30 Inches apiece, and is 21 Feet high, ℔ the Slope, is
to be sold at 7 s. ℔ solid Foot; and if the polishing the Sur-
face of the Sides will be 8 d. ℔ Foot more, I would know
the Cost of this Stone when finished?

Answer, 9 l. 4 s. 11 d.

(373) A Stick of square Timber tapers straight; the Side
at the greater End is 19½ Inches, at the less, 13½ Inches,
the Length 16 Feet 6 Inches, the Value, at 2 s. 6 d. ℔ Foot
solid, is demanded?

Answer, 3 l. 18 s. 10 d.

To measure a common Cask: Find the Areas at Head
and Bung, add ⅓ of the less, and ⅔ of the greater, for a
mean Area; this multiplied by the Length of the Cask is its
Solidity in Inches, which reduce. Or, II. To double the
Square of the Bung Diameter add that of the Head; then
multiply by the Length of the Cask, and divide by 1077,24
for Beer, or by 882,42 for Wine Gallons.

(374) What Quantity of Brandy will the Distiller's Tun
contain, that measures 40 Inches within at Head, 52 at Bung,
and is 100 Inches long; and how many Barrels of London
Ale would fill it?

Answer, Brandy 794, &c.
Ale 20 Barrels, 10½ Gallons.

(375) The famous Tun of Heidelburgh, that being here-
tofore annually replenished with Rhenish, had in it some
Wine that was many Ages old; before the French demo-
lished it in the late War, it was 31 Feet in Length, and
21 Feet in Diameter, and pretty nearly cylindrical: Pray
how many Tuns of Wine would the same contain?

Answer, 318 Tuns, 183 Gallons, &c.

SOLUTIONS

SOLUTIONS

TO THE

Most Difficult of the aforegoing

QUESTIONS;

WITH THE

Manner of Performing the several OPERATIONS.

By BENJ. WEBB, Writing-Master and Accountant,
and Master of the Haberdashers-School in Bunhill-Row.

APOLOGY.

BEING engaged to revise and examine this Edition of Mr CLARE's excellent *Introduction to Trade and Business*, and it being judged that the Methods of Solution to the most difficult Questions in the Recreative Part of it would make an agreeable Appendix, I undertook to perform the Task: In what Light it will be received by the Public I hope I need not be solicitous, since the Intent was the Encouragement of the Pupil, and the Ease of the Instructor.

B. W.

Explanation of the Symbols made use of in the Appendix.

+   Signifies more or added to.

−   less or taken from.

×   multiplied by.

÷   divided by.

=   equal to.

: :: :   direct Proportion.

□   squared.

√   square Root.

APPENDIX.

APPENDIX.

QUESTION XIII.

The Bell at Pekin 120.000 *lb.*
Excess — — 94.600

The German Bell 25.400
The Bell at Nankin 50.000

Difference is — — 24.600 nearly half above the German Bell.

QUESTION XIV.

Grandfather's Age is 9111
Subtract — — 83

Grandson's Age is — 36
The Father's Age is — 63
The Difference is — 27 between Father and Son.

QUESTION XXII.

Charlotte's Fortune — Part 13200
Miss Kitty's — — 13200
Charlotte's raised to — 15000

To Ditto left by Grandmother 1800
Miss Kitty's raised to — 20000
To Ditto left by Grandmother 6800

Left between them — — 8600

QUESTION XXVII.

When Seth was born, Adam was	—	130 Years old.
When Enos was born, Seth	— —	105
When Ditto was Father to Cainan	—	90
When Cainan had Mahaliel	—	70
Mahaliel had Jared	— — —	at 65
Jared had Enoch	— — —	at 162
Enoch had Mathuselah	— —	at 65
Mathuselah had Lamech	— —	at 187
Lamech had Noah	— —	at 182
Noah, when the Flood happened, was		600

Years   1656 To the Flood.

Years   930 To Adam's Death.

726 Years after Adam's Decease.

QUESTION XXX.

Mean Distance between the Earth and Sun is Miles	81.000.000
Ditto Earth and Moon	240.000
In an Eclipse of the Moon — Difference is	81.240.000
Then from	81.000.000
Subtract	240.000
In an Eclipse of the Sun	80.760.000

QUESTION XXXIII.

1600 Guineas are £ 1722	
Multiplied by	4
Mother's Part is	6888
Subtract	1383
Daughter's Part is	5505
Then ½	2752 . 10

The eldest Son's Part   8257 . 10

Collected as under.

£ 1722 . — . —

6888 . — . —

5505 . — . —   2) 12393

8257 . 10 . —

6196 . 10 . —   6196 . 10 = Youngest Son.

988 . 10 . — Funeral Expences.

29557 . 10 . —

30000 . — . —

442 . 10 . — Remainder.

QUESTION XXXVII.

	£			
Due to the Guardian	74	18	2	
Paid off — — —	41	14	8	
	33	3	6	Brother's Debt.
¼ —	16	11	9	
	49	15	3	
Paid off by Sister — —	13	12	10	
	36	2	5	Sister's Debt.
Add —	33	3	6	Brother's Debt.
	69	5	11	
Paid off by Uncle — —	24	7	3	
	44	18	8	Uncle's Debt.
Then collect Brother's Debt	33	3	6	
Sister's Ditto	36	2	5	
	114	4	7	
	35	15	5	Father's Gain.
£	150	0	0	Proof.

QUESTION XXXIX.

	£			
100 Guineas are — — £	105	—	—	
Deduct 10 Marks, viz.	6	13	4	
S's Part is — —	98	6	8	
Deduct — —	—	16	8	
T's Part is — —	97	10	0	
Deduct — —	6	6	0	
R's Part is — —	91	4	0	
Add — —	3	17	2	
W's Part is — —	95	1	2	= W
Then collect —	91	4	0	= R
	97	10	0	= T
	98	6	8	= S
£	382	1	10	= Answer.

Q U E S T I O N   XL.

Troy built before the Temple	440	Years.
London Ditto ————	260	

——— Difference	183	
	3000	

In the Year	2827	London was built.
Carthage built before Rome	113	
Rome before Chrift ———	744	

	857
Chrift born A. M. ———	4000

In the Year	3143	Carthage built.
———	2827	London.

London older than Carthage	316	Years.

Q U E S T I O N   XLV.

20 Piers, each 60 Feet thick	1200	Feet.
21 Arches, each 170 Feet	3570	Feet.

The Length of Trajan's Bridge	4770
Deduct the Length of Westminster	1200

	3570	the Answer.

Q U E S T I O N   LXIII.

The Snail goes up 8 Feet the firft Day, comes down 4; then goes up 8 the fecond Day, and defcends 4 at Night, &c. fo that on the fourth Day fhe is 20 Feet high, and need not come back again.

Q U E S T I O N   LXVI.   s.   d.

The Value of the Purfe and Money is	12 .	8
Value of Purfe ——— $\frac{1}{8}$ is	1 .	7

Money in the Purfe ——— is	11	1

Ques-

QUESTION LXXIII.

From   20 the Number of Terms, and 21 the laſt Term.
Take   1 = Com. Diff.

$19 \times 1\frac{1}{2} = 28\frac{1}{2}$ Then   24
                             $28\frac{1}{2}$
                             21

                             73 The Father's Age.

QUESTION LXXIV.

This Queſtion may be eaſily traced by proceeding as under. On the laſt Night the Number of Sheep was reduced to 20, when 21 had been ſtolen the Number then being 41, for the $\frac{1}{2}$ of 41 is $20\frac{1}{2}$, and $\frac{1}{2}$ a Sheep make 21, ſo then $41 - 21 = 20$; and in like manner for the reſt, the Double of $41\frac{1}{2}$ is 83, and the Double of $83\frac{1}{2}$ is 167, the Number of Sheep at firſt.

QUESTION LXXXIV.

360   the Sum of 2 Numbers.
114   the Leſs.

246   then $246 \times 114 = 28044 =$ Product.
114

132 = Difference. $\frac{246}{114} = 2\frac{3}{19}$ the larger Quote.

QUESTION LXXXV.

$\frac{2072}{14} = 148$ and $148 \times 25 = 3700$ and

$\frac{3700}{6}$ Feet = 1 Fathom = $616\frac{2}{3}$ Fathoms.

QUESTION XCI.

$360° \times 69'\frac{1}{2} = 25020$ Miles, then
H. M.   H.
As 23.56 : 25020 :: 1 : $1045\frac{145}{359}$ Miles.

QUESTION XCII.

$2 \times 3 \times 4 \times 5 \times 6 = 720$
                Add   1

                     721

Then $\frac{721}{7} = 103$ even.

$\frac{721}{2.3.4.5.6}$ reſpectively will leave an odd one.

Z   QUES.

QUESTION C.

As $5 : 8 :: 75 : 120$

Then $120 \square = 14400$

$75 \square = 5625$

$8775 = $ Diff.

$\dfrac{120}{75} = \dfrac{8}{5} = $ Ratio or largest Quote.

$\dfrac{75}{120} = \dfrac{5}{8} = $ Lesser Quote.

Then $\frac{8}{5} \square = \frac{64}{25}$

And $\frac{5}{8} \square = \frac{25}{64}$ These reduced $= \dfrac{4096 + 625}{1600} = 2\dfrac{1521}{1600}$

QUESTION CII.

$L + M + N + O = £\ 10000$ Then $6050 - 420 = 5630$

$L + M + N = 8500$ And $\dfrac{5630}{2} = 2815 = M$

Then $O = £\ 1500$ And $6050 - 2815 = 3235 = N$

$M + N = 6050$

$M + N + O = 7550$ Proof.

Then from $L + M + N + O = 10000$

Take $ M + N + O = 7550$ $L = 2450$

$M = 2815$

Remains $L = £\ 2450$ $N = 3235$

Then $L + M + N + O = 1000$ $O = 1500$

Take $L + O = 3950$

       $£\ 10000$ as before.

Rem. $M + N = 6050$

QUESTION CIV.

$$£ \quad\quad s \quad\quad d$$

$A + B = 13\ .\ 10\ .\ 0$

$B + C = 12\ .\ 12\ .\ 0$

$A + C = 11\ .\ 16\ .\ 6$

$37\ .\ 18\ .\ 6$

Then divide by the Number of Players at each Time will give the Sum Total won.

Thus $2)\ 37\ .\ 18\ .\ 6$

$+\ 18\ .\ 19\ .\ 3 = A + B + C$

Then $-\ 13\ .\ 10\ .\ 0 = A + B$

$5\ .\ 9\ .\ 3 = $ C's Gain.

Then $-\ 12\ .\ 12\ .\ 0 = B + C$

$6\ .\ 7\ .\ 3 = $ A's Gain.

Then $-\ 11\ .\ 16\ .\ 6$

$7\ .\ 2\ .\ 9 = $ B's Gain.

QUES.

QUESTION CV.

$$W + X + Y = \text{\pounds} \ 350 \ . \ 10$$
$$W + X + Z = \ 344 \ . \ 10$$
$$X + Y + Z = \ 400 \ . \ —$$
$$W + Y + Z = \ 378 \ . \ 4$$

$$3) \ \overline{1473 \ . \ 4}$$

Guin. 491 . 1 . 4
Subtract 450 - - - - 472 . 10 . 0

Remains £ 18 . 11 . 4

QUESTION CVI.

	s.	d.
120 at 2 a Penny =	5	. 0
120 at 3		3 . 4

8 . 4
And 240 at 5 for 2 - - 8 . 0

Lofs 0 . 4

QUESTION CVII.

1ſt 2d 3d
5 : x :: 8 Then   To find the 4th. Say as $5 : 9.8 :: 8 : \frac{78.4}{5} =$

15.68 = the fourth. Then

$8x = 78.4$ 15.68
and $x = 9.8 =$ 2d N°   — 9.8

5.88 The Anſwer required.

QUESTION CVIII.

s. d. G. £
If 4 . 6 —— 1 —— 33 facit 146 ⅔ Wine and Water.
126 = Wine 1 Pipe.

Gallons 20 ⅔ = Water.

QUESTION CIX.

Gall. S. I.
$13 \frac{1}{4} \times 282 = 3760$ Solid Inches, and this $\times 52835 = 1986.596$
and this $\div 7 \frac{1}{2}$ lb. or 120 Ounces, gives $16 \frac{3}{5}$ Gall. nearly.

QUESTION CXI.

Put $a =$ the Expence, this doubled $= 2a$
Put $a =$ the Profit, this halved $= \frac{1}{2}a$ therefore $\frac{1}{2}a$ muſt
be $\times 4$ to make $2a$, conſequently the Proportion is 4 to 1.

Z 2   QUES-

QUESTION CXII.

£ 39 . 19 . 8 = 39 . .983 decimally, then divide 39 . 983 by 12 Years, and it will quote 3 . 3327.

Then $\dfrac{100}{3 . 3327}$ = 30 Years.

QUESTION CXIV.

	Miles		Min.		Mile		Sec.	Tb.

Say If 37 $\frac{11}{30}$ —— 4 —— 1 facit 6 . 26 nearly.

QUESTION CXV.

	Ap.		P.
If	12	- - -	12
	3	- - -	$\frac{1}{2}$ d.
What will	——	——	84 Coſt.

Multiply the Antecedents together for a Diviſor, and the Conſequents together for a Dividend, as under.

```
        12           21
         3           ½ d.
       ----        ------
Anteced. 36        10.5
                     84
                   ------  d.
              36) 882. (24 ½
```

QUESTION CXVI.

Divide the Sum Total of the Notches by the Number of Players at a Time, and add their Deficiency to the Quotient, and you will have 356.

QUESTION CXVII.

	S		Sacks		£		Sacks

Say If 36 —— 12 —— 41 facit 273 $\frac{1}{3}$ and this multiplied by $\frac{7}{6}$ will give 318 $\frac{8}{9}$ People.

QUESTION CXVIII.

Now $\dfrac{8}{10} = \dfrac{4}{5}$ and $\overset{S}{4} = \dfrac{4}{20} = \dfrac{2}{10} = \dfrac{1}{5}$ = Tax.

Then 1 Fifth - - £ 8 . 10 - - 5 Fifths facit £ 42 . 10

QUESTION CXIX.

If £ 3 . 10 —— £ 130 —— £ 4 . 5 facit £ 57 . 17 . 1 $\frac{5}{7}$.

QUESTION CXX.

	£		S	D		£		S	D

If 105 —— 31 . 9 —— 110 facit 33 . 3 $\frac{1}{2}$.

QUESTION CXXI.

	£		Perſ.		£	S	D

If 45 Perſons —— 20 what will 58 facit 25 . 15 . 6 $\frac{2}{3}$ and if

	£	S	D		Gall.		£		£	S	D

25 . 15 . 6 $\frac{2}{3}$ —— 17 —— 63 facit 43 . 12 . 6.

QUES-

QUESTION CXXII.

If 22 —— 1 —— 1 facit $\frac{1}{22}$ and if 32 —— 1 —— 1 —— $\frac{1}{32}$ then $\frac{1}{22} - \frac{1}{32} = \frac{10}{704}$ Day. Then say, if $\frac{10}{704}$ —— 1 —— 4 facit $\frac{2816}{10} = 281 \frac{6}{10}$ and 350 — 281 $\frac{6}{10}$ = 68 $\frac{4}{10}$.

QUESTION CXXIV.

From 100 take 17 remains 83. Then if 83 — 100 — 52 . 10 facit 63 . 5 . 0 $\frac{60}{83}$ and if 100 — 120 — 63 . 5 . 0 $\frac{60}{83}$ facit 75 . 18 — $\frac{72}{83}$ — 52 . 10 = 23 . 8 — $\frac{72}{83}$.

QUEST. CXXV.   See QUEST. CXV.

QUESTION CXXVI.

112 at 25 $\frac{2}{3}$ = 11 . 19 . 6 $\frac{2}{3}$ the $\frac{11 . 19 . 6\frac{2}{3}}{2}$ = 5 . 19 . 9 $\frac{1}{3}$ subtracted from £ 8 gives the Answer.

QUESTION CXXVII.

If 1 — 30 — 4 = 120. And if 1 — 120 — $\frac{1}{5}$ facit $\frac{5}{1}$) $\frac{120 \times 1}{1}$ (600

QUESTION CXXVIII.

If 50 . 11 — 98 . 6 — 300 . 8 facit 581 . 7 $\frac{487}{611}$ then subtract 20 . 6 + 30 . 9 and remains 530 . 4 $\frac{487}{611}$.

QUESTION CXXIX.

4 . 3 = 51 Sold for 6 Loss ⅌ Cent. is 8 $\frac{1}{2}$ + . 56 then 6

Charges 2 a Pair   — . 0 . 8 $\frac{1}{2}$. 56

53   Then if 53 — 5 . 3 $\frac{1}{4}$ + 44 — £ 100 facit £ 19 . 10 . 11 $\frac{17}{53}$ 5 . 3 $\frac{1}{4}$. 44

QUESTION CXXX.

If 1 $\frac{1}{2}$ — 1 — 6 . 7 $\frac{1}{2}$ facit 53 then if 4 fifths — 53 — 5 fifths facit 66 . 5

Then £ 66 . 5 = whole Rent.

53 . 0 = $\frac{4}{5}$ of Rent.

13 . 5 = King's Tax = $\frac{1}{5}$ of the Rent.

QUESTION CXXXI.

800 Barrels each 14 *lb.* at 12 $\frac{1}{2}$ *d.* amount to 140000 *d.*

$$\text{Then if } 7490 \underset{\textit{lb.}}{\quad} 140000 \underset{D}{\quad} 1 \underset{\textit{lb.}}{\quad} \text{ facit } 18 \tfrac{5180}{7490} \underset{D}{\quad}.$$

$$\text{And if } 117 \underset{£}{\quad} 100 \underset{£}{\quad} 18 \tfrac{5180}{7490} \underset{D}{\quad} \text{ facit } 15 \tfrac{85005}{876633} \underset{D}{\quad}.$$

QUESTION CXXXII.

$$1700 + 400 + 400 + 400 = 2900 \text{ for } 1700 \overset{Days}{\longrightarrow} 11 \longrightarrow 400 \longrightarrow 3 \text{ &c.}$$
= 20 Days.

QUESTION CXXXIII.

To £3179 . 11 . 8 add £25 = 3204 . 11 . 8. Then for $\frac{1}{4}$ of the Year the Increase at $\frac{1}{3}$ the Year is $\frac{1}{12}$ and the whole Estate = $\frac{12}{12}$ consequently $\frac{12+1}{12} = \frac{13}{12}$ Then £ 3204 . 11 . 8 ÷ $\frac{13}{12}$ = £ 2958 . 1 . 6 $\frac{6}{13}$. Again for 1 Year with the Increase of $\frac{1}{3}$ = $\frac{4}{3}$, then £100 + £ 2958 . 1 . 6$\frac{1}{2}$ ÷ $\frac{4}{3}$ = £ 2293 . 11 . 1$\frac{3}{4}$. And this last Sum + 100 ÷ by $\frac{4}{3}$ = £1795 . 3 . 4$\frac{1}{4}$, and this + £100 ÷ $\frac{4}{3}$ = £ 1421 . 7 . 6 the Answer required.

QUESTION CXXXV.

$$1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9 = 362880 \text{ Days} = 999\tfrac{351}{365} \text{ Years}$$
Board for 200 Guineas = about 50 $\frac{2}{3}$ *d.* a Year.

QUESTION CXXXVI. Is an easy Sum in Position.

QUESTION CXXXIX.

If £17 $\underset{£}{\quad}$ £3 $\underset{£}{\quad}$ £140 facit $\overset{£\ S\ D}{24 . 14 . 1}$. Then from 140 deduct 24 . 14 . 1 remains 115 . 5 . 11 then $\frac{1}{5}$ of £140 = £28 and £ 28 ÷ 17 = £ 1 . 12 . 11. Then to £ 115 . 5 . 11 + 1 . 2 . 11 facit £ 146 . 18 . 10.

QUESTION CXL.

If 10 $\overset{Day}{\quad}$ 1 $\overset{W}{\quad}$ 1 facit $\frac{1}{10}$ then $\frac{1}{10} + \frac{1}{13} = \frac{23}{130}$ in one Day consequently 5 $\frac{15}{23}$ Days finishes the Whole.

QUESTION CXLI.

$$
\begin{aligned}
A + B + C + D &= 25000 \\
B + C + D + E &= 33000 \\
A \quad + C + D + E &= 30000 \\
A + B + C \quad + E &= 28000 \\
A + B \quad + D + E &= 32000 \\
\hline
&= 148000
\end{aligned}
$$

Then

Then 148000 ÷ 4 the Number combined
= 37000 the Sum of their Fortunes.

Then A+B+C+D+E = 37000
And A+B   +D+E = 32000

$$\overline{}$$

5000 = C the third Daughter.

QUESTION CXLII.

Day Work Day

B+C = 18 then if 18 — 1 — 1 — $\frac{1}{18}$ then A+B+C = $\frac{1}{11}$

A+B+C = 11 then if 11 — 1 — 1 — $\frac{1}{11}$ and — B+C = $\frac{1}{18}$

$$\overline{}$$

198

7

= 28$\frac{2}{7}$ Days.

QUESTION CXLIII.

A+B = $\frac{2}{7}$ = .2857
A+C = $\frac{3}{8}$ = .375
B+C = $\frac{3}{10}$ = .3

$$\overline{}$$

9607 ÷ 2 the combined Nº = .48035 = A+B+C &

W   S   W   S   D   .2857 = A+B

Then if .4804 — 30 — .19465 facit 12 . 1 $\overline{}$. 19465 = C and in
like manner proceed for the reft.

QUESTION CXLIV. CXLV. CXLVI.

May be folved by Pofition, or by a Simple Algebraic Equation.

Example of QUESTION CXLIV.

Put x = C's Crowns. Then by the Queftion B's Crowns are
= x — 178 and A's Crowns = x — 178 + 129, then thefe added
together equal 1000 Crowns thus:

C = x
B = x — 178
A = x — 178 + 129

$$\overline{}$$

3x — 356 + 129 = 3x — 227 = 1000 confeq. = 3x = 1000 + 227

= 1227 and x = $\dfrac{1227}{3}$ = 409 = C's Crowns.

Whence B = 409 — 178 = 231 and A = 409 — 49 = 36 A.

QUESTION CXLVII.

S   S   D   S   D

At 11 he cleared $\frac{3}{8}$ = 4 . 1$\frac{1}{2}$ remains 6 . 10$\frac{1}{2}$ prime Coft.

S   D   S   D   S   D

13 . 6 raifed deduct 6 . 10$\frac{1}{2}$ remains 6 . 7$\frac{1}{2}$ Gain.

S   D   S   D

Then if 6 . 10$\frac{1}{2}$ —— 6 . 7$\frac{1}{2}$ —— 100£ facit £96 . 7 . 3$\frac{3}{7}$r.

QUES-

QUESTION CXLVIII.

Is performed by the Rule of Three Indirect.

QUESTION CLI.

$x + y + z = 12$ Then if $12 - 1 - 1$ facit $\frac{1}{12}$ Work.

$z = 24$ $24 - 1 - 1$ $\frac{1}{24}$

$x = 34$ $34 - 1 - 1$ $\frac{1}{34}$

Then $x + z = \frac{1}{34} + \frac{1}{24} = \frac{58}{816}$ then $\underline{x + y + z = \frac{1}{12}}$

$\underline{\quad\quad - x \quad + z = \frac{58}{816}}$

Conseq. $y = \frac{120}{9792}$ in 1 Day.

$\quad\quad$ *Work*   *Day*   *Work*   *Days*

If $\frac{120}{9792}$ ——— 1 ——— 1 facit $81\frac{6}{10}$.

QUESTION CLIV.

From $90°$ take $23°\frac{1}{2}$ remains $66°\frac{1}{2}$ then to $11°.48'$ add $23°.30'$ facit $35°.18'$ to this add $66°.30'$ facit $101°.48'$ and this laſt Sum $\div$ by 2 gives $50°.54'$.

QUESTION CLVI.

Sloop and Cargo $= £16131\frac{7}{10}$ then $\frac{7}{8}$ of $\frac{3}{4}$ of $\frac{1}{2} = a$. $\frac{3}{5}$ of $\frac{4}{5}$ of $a = b = B$. Then $a - b = A$ and $A + B$ reduced $= \frac{84}{120}$ and $\frac{320}{320} - \frac{84}{320} = \frac{236}{320}$ the Remainder of the Sloop and Cargo, then $\frac{9}{11}$ of $\frac{236}{320} = \frac{2124}{3520} = P$. Then ſay by the Rule of Three,

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad £$

If 3520 ——— $£16131.7$ ——— 2124 facit $9734\frac{127}{3520}$.

QUESTION CLVII.

Is performed by Alligation, and is very eaſy.

QUESTION CLIX.

If, allowing him to make $£5$ ₩ Cent. of his Money,

The Intereſt of $£100 = £5$ $£40$ a Year allowed.

$\quad\quad\quad$ of $\;200 = 10$ 55

$\quad\quad\quad$ of $\;300 = 15$ 70

$\quad\quad\quad\quad\quad\quad\quad\quad \overline{30} \quad 3)\overline{165}$

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad 55$ Mean Sum.

$\quad\quad\quad\quad\quad$ deduct $\;\;30$

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad \overline{25} =$ his Allowance for

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ Attendance.

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ **QUEST.**

QUESTION CLXIV.

Put $4000 = n$ then $\frac{5}{8}$ of $\frac{2}{3}$ of $n = \frac{5n}{12}$ now $\frac{12n-5n}{12} = \frac{7n}{12}$.

Then $\frac{3}{4}$ of $\frac{7n}{12} = \frac{7n}{48}$ and $\frac{28n-7n}{48} = \frac{21n}{48} = \frac{7n}{16}$.

Then $\frac{7}{10}$ of $\frac{17}{20} = \frac{119}{200}$ of $\frac{7n}{16} = \frac{833n}{3200}$ and $\frac{7n}{16} - \frac{833n}{3200} =$

$\frac{1400n-833n}{3200} = \frac{567n}{3200}$ and $\frac{3}{16}$ of $\frac{567n}{3200} = \frac{1701n}{51200}$ then $\frac{567n}{3200} - \frac{1701n}{51200} =$

$\frac{9072n}{51200} - \frac{1701n}{51200} = \frac{7371 \times 4000}{5120} = 575\frac{55}{64}$ Nuts.

QUESTION CLXV.

May be performed by two Operations in double Pofition.

Operation the firft brings out $376\frac{8}{17}$ Bufhels of Malt.

$\qquad\qquad 225\frac{15}{17}$ Meal.

$\qquad\qquad 197\frac{11}{17}$ Oatmeal.

$\qquad\qquad \overline{800}$ Bufhels.

Operation the fecond brings out $1 s. 7\frac{240}{1512} d.$ whence the reft may be readily had.

Or by two fimple Equations in Algebra.

By the queftion $x + \frac{3x}{5} + \frac{21x}{40} = 800$ whence $x = 376\frac{8}{17}$ Bufh. of Malt.

$\qquad\qquad$ and $\frac{3x}{5} = 225\frac{15}{17}$ Meal.

$\qquad\qquad\frac{21x}{40} = 197\frac{11}{17}$ Oatmeal.

Then thefe Fractions reduced we fhall have for the next Equation $3360x + 7680x + 19200x = £142 \times 17 = 2414$, which reduced into Shillings $= 48280 s.$

Then $x = \frac{48280}{30240} = \frac{2414}{1512} = 1 s. 7\frac{240}{1512} d.$ as before.

QUESTION CLXVI.

$\frac{48}{48}$) $\frac{361}{37}$ ($\frac{361}{37} = 9\frac{28}{37}$ and this $\square = 95\frac{265}{1369}$.

QUESTION CLXVII.

$\frac{27}{48} \times \frac{48}{77} = \frac{1}{1}$ Cube of $\frac{48}{77} = \frac{110592}{456533} = \frac{995328}{4108797}$.

QUESTION CLXX.

£2000 $\times \frac{3}{4} = 1500$ and $1500 + 2000 = £3500 = \frac{2}{3}$ of the Fortune. and $\frac{1}{2}$ of $\frac{2}{3} = 1750 = \frac{1}{3}$ ditto.

$\qquad\qquad\qquad\qquad \overline{5250} =$ whole Fortune.

If fhe had had a Daughter, the Mother would have had— £3500
If a Son £1750, but as fhe had both, fhe had no more than 1500

$\qquad\qquad\qquad\qquad$ Loft in Equity   £2000

Question CLXXIV.

This Question is performed by Alligation alternate.

$$24 \begin{cases} 30 \\ 20 \\ 18 \\ 15 \end{cases} \quad \begin{array}{c} 9+6+4 \\ 6 \\ 6 \\ 6 \end{array} \quad \begin{array}{c} 19 \\ 6 \\ 6 \\ 6 \end{array}$$

Then say if
	lb.		lb.			lb.
19 —	120	— 19	facit	120
19 —	120	— 6		$37\frac{17}{19}$
19 —	120	— 6		$37\frac{17}{19}$
19 —	120	— 6		$37\frac{17}{19}$

The true Answer is *lb*. $233\frac{13}{19}$

Question CLXXVII.

$\frac{1}{2}+\frac{3}{7}=\frac{45}{56}$ and $1-\frac{45}{56}=\frac{11}{56}$ then if $11 - £140 - 45$ facit $£572\frac{8}{11}$.

Question CLXXVIII.

Say if $£45$ —— $£100$ —— $£52$. 10 facit $£116$. 13 . 4 the whole Stock.

Then A $=$ 10 and B $7=$ 17, then if 17 —— $£116$. 13 . 4 — 10 facit A's Stock, and then proceed to find B's.

Question CLXXIX.

$£74$. — $=$ A's Gain.
52 . 10 $=$ B's.

21 . 10 $=$ Difference.
126 . 10 $=$ Sum.

Then if $£21$. 10 —— $£19$. 19 . 8 —— $£126$. 10 facit
$£117$. 6 $=$ Sums advanced. Then $£117$. 6 $=$ Principal.
126 . 10 $=$ Gain.

If 55 —— *Ank.* 1 —— 243 . 16 facit 88 Ankers.
If Ank. 88 —— $£126$. 10 —— 1 Anker facit 28s. $10\frac{1}{4}d$.

Question CLXXXVI.

18 *Cwt.* at 42s. $=$ 756	s. 15 . 6
	14 . —
$\frac{1}{3}$ 252	————
————	1 . 6
504	2
	————
	3 . —

If $31s$. —— $3s$. —— $504s$. facit $£2$. 8 . $9\frac{1}{3}$
Then 42 18 *Cwt.* at 11s. $=$ 19s. 8d. $=£9$. 18 . —
—31 2 . 8 . $9\frac{1}{3}$
———— ————
11 Gained. In A's favour $£7$. 9 . $2\frac{2}{3}$

Ques-

QUESTION CXC.

£ 5 . 6
½ 2 . 13
_____
7 . 19

Then if £4 . 5 —— £7 . 19 —— 3d. facit
5½d. + 11/23¼.

QUESTION CXCII.

The whole Interest is 65 1s. 6d. then say if £4 was gained by £100 in 365 Days, in how long time will 2289 s. gain 651 s. 6 d. facit 7 Years 41 Days, to be deducted from the 18th of August, gives the 7th of July, 1733.

QUESTION CXCIII.

£ 542 . 8 = Principal and Interest.
384 . 0 = Principal.
_____
158 . 8

Then if £384 —— £158 . 8 —— 100 facit £ 825, this ÷ 8¼ gives 100 s. = £5.

QUESTION CXCIV.

£	s.				£	s.	d.	£	s.	d.
20 . 0		If £78 . 5 — 640 — £20 facit			163 . 11 . 6			= 18 . 3 . 6
26 . 5					9mo.			
32 . 0		Ditto ditto 26 . 5			214 . 13 . 11			= 30 . 13 . 5
					7mo.			
78 . 5		Ditto ditto 32			261 . 14 . 6			= 52 . 6 . 10¾
					5mo.			

QUESTION CXCIX.

50 Cloths at £ 13 = £ 650.

Then if 2 s. 6 d. —— 14 lb. —— 650 £ facit 72800 lb. ÷ 364 = in a Sack, facit 200 Sacks.

Now if 11 . 10 £ —— 13 s. —— 2 s. 1 d. facit 28.261 ferè, and from 30. take 28.261

50 Cloths at £ 11 . 10 ⅌ Cloth facit £575. 1.739

Then if 30 d. —— 1.739 d. —— 575 £ Answer 33 s. 6 d. 8

QUESTION CCII.

If 10 d. —— 6 d. —— 20 s. facit 12 s.

If 12 s. —— 8 Bush. —— 31 . 10 £ facit 420 Bushels.

QUESTION CCIII.

8 + 5 = 13 and 8 — 5 = 3 Then if 13 —— 3 —— £154 facit £ 35 . 10 . 9¼

Ques-

Question CCIV.

$$72 \times 30 = 108 \times 20 = 1296 \text{ for } 720 \text{ at } \overset{s.\ d.}{6 \cdot 8} \text{ or } \tfrac{1}{3}\pounds = \overset{\pounds}{240}$$

deduct 10 ♥ Cent.   24

                216

$\tfrac{1}{2}$ in Cash   108

720 Ells at 5s.   180

Pounds of Saffron =   72

Question CCVI.

$\pounds$ 480 . 12 . —

   137 . 6 . 3 damaged.

$\pounds$ 343 . 5 . 9

$\pounds$ 137 . 6 . 3
   48 . 18 . — loft.

If 88 . 8 . 3 —— $\overset{\pounds\ s.\ d.}{137 . 6 . 3}$ —— $\overset{s.\ d.}{5 . 6}$ facit $\overset{s.\ d.}{8 . 6\frac{1}{4}}$
Then if 8s. $6\frac{1}{4}d$. —— 1 Yard —— $\pounds$480 . 12 facit 1128 Yards
in all. Then $\tfrac{2}{7}$ of 1128 Yards = $322\frac{1}{4}$ Yards damaged —— $895\frac{3}{4}$
Yards undamaged. Now $\pounds$343 . 5 . 9 = Value of the undamaged.
And to this add $\pounds$48 . 18 we shall have $\pounds$392 . 3 . 9, then say
If $805\frac{3}{4}$ Yards —— $\pounds$392 . 3 . 9 —— 1 Ell facit 12s. 2d.

Question CCVII.

Remark, if I am supposed to make Interest of the $\pounds$400 Stock
sold out, and of the Dividends received, it will be to my damage
about $\pounds$132.

Question CCVIII.

The Interest of $\pounds$1114 . 10 for 1461 Days is $\pounds$318 . 8 . $2\frac{1}{2}$.

Paid off $\pounds$140 remains $\overset{\pounds\quad s.\quad d.}{1292 : 18 . 2\frac{1}{2}}$

Then add the Interest of this last to Septem-
ber 5, 1718, found thus,
If $\pounds$100 —— $\pounds 5\frac{1}{4}$ —— $\pounds$1292 . 18 . 2 }   21 . 16 . 8
facit $\pounds$67 . 17 . $6\frac{1}{2}$ and
If $\pounds$67 . 17 . $6\frac{1}{2}$ — 365 Days — $\pounds$21 . 16 . 8 }
facit 116 Days = September 5, 1718,

$\pounds$1314 . 14 . $10\frac{1}{2}$
Paid off   87 . 11 . 9

$\pounds$1227 . 3 . $1\frac{1}{2}$

Then the Sum taken for the Bond on the } 1409 . 16 . 8
11th of September, 1724, is ——

Interest taken $\pounds$ 182 . 13 . $6\frac{1}{2}$

Then

Then to find the Rate of Intereſt taken ſay,

If £1227 . 3 . 1½ — £1409 . 16 . 8 — £100 facit £114 . 17 . 6
Then this Intereſt divided by 6 Years = the Time from Septem-
ber 1718 to September 1724, gives the Anſwer thus

Intereſt £14 . 17 . 6 ÷ 6 = £2 . 9 . 6½ ferè.

QUESTION CCIX.

Days.	Work.	Day.	Work.		
If 12 —— 1 ——	1 facit	$\frac{1}{12}$ =	.0833333 &c.	= A+B+C
14 —— 1 ——	1	$\frac{1}{14}$	.0714285	= B+C+D
15 —— 1 ——	1	$\frac{1}{16}$	.0666666	= C+D+A
18 —— 1 ——	1	$\frac{1}{18}$	.0555555	= D+A+B

Divide by combined Nᵒ of Men 3) .2769841

+ .0923280 = A+B+C+D
— .0714285 = B+C+D

.0208995 = A only.
— .0666666 = A +C+D

.0256614 = B
— .0555555 = A+B D

.0367725 = C
— .0833333 = A+B+C

.0089947 = D

Work.	Day.	Work.	Days.	
Then if .0923280 —— 1 ——	1 facit	10.83	= All.
.0208995 —— 1 ——	1	47.848	= A.
.0256614 —— 1 ——	1	38.931	= B.
.0367725 —— 1 ——	1	27.194	= C.
.0089947 —— 1 ——	1	111.176	= D.

QUESTION CCXI.

s.	d. Flem.	d. ſter.	d. Flem.	d. ſter.
If 34 . 4 ——	240 ——	52 facit	30$\frac{120}{412}$	

Rees.	d.	Rees.	d.
Then if 400 ——	30$\frac{120}{412}$ ——	1000 facit	75$\frac{75}{103}$

QUESTION CCXII.

7 $\left\{\begin{array}{c}9\\8\\6\\5\end{array}\right.$)

2
1
1
2
—
6

Cwt. lb.
1½ = 168

Then

<table>
<tr><td></td><td></td><td></td><td>lb.</td><td>s.</td><td>z.</td></tr>
</table>

Then if 6 —— 168 —— 2 facit 56 at 9 = 504 Proof.
6 —— 168 —— 1   28   8 = 224
6 —— 168 —— 1   28   6 = 168
6 —— 168 —— 2   56   5 = 280

168   2|0) 117|6

£ 58 . 16

And 168 *lb.* at 7*s.* = 2|0) 117|6 *s.*

£ 58 . 16

QUESTION CCXIII.

100 Reams at 10*s.* = £50   1600 Pamphlets at 6*d.* = £40

¼ 12 . 10   12 . 10

£27 . 10

100 Reams at 8*s.* = £40 . —
deduct   27 . 10

£ 12 . 10 in B's favour.

QUESTION CCXIV.

$\frac{2}{3} + \frac{1}{3} = \frac{10 \times 3}{15}$ 400

15   7

£   Mon.   £.

Then if 10 —— 2800 —— 3 facit 840 ÷ 5 = 168 = A.
And if 10 —— 2800 —— 2 facit 560 ÷ 8 = 70 = B.

QUESTION CCXV.

$\frac{20-12}{20} = \frac{3}{20} = \frac{2}{5}$ or 5 to 2 against the Hare.

Seconds.   Feet.   Seconds.   Feet.

Then if 3600 —— 63360 —— 34 facit 598$\frac{4}{10}$
Add for 5 Rods   82$\frac{5}{10}$

Feet   680$\frac{9}{10}$ = Ground run
Then multiply by   5   before Dog's
outlet.

Divide by   2) 3404$\frac{5}{10}$

Feet   1702$\frac{1}{4}$ = Ground run
by the Dog.

M.   Feet.   Sec.   Feet.   Sec.

Again say if 20 or 105600 —— 3600 —— 10702$\frac{1}{4}$ facit 58$\frac{1}{2}$.

QUES-

QUESTION CCXVI.

oz.		s.	d.		lb.	oz.		£	s.	d.

If 1 —— 7 . 2 —— 140 . 11 facit 605 . 18 . 10

Then $\frac{1}{7}$ of £605 . 18 . 10 = £86 . 11 . $3\frac{1}{7}$ and £605 . 18 . 10 —

£86 . 11 . $3\frac{1}{7}$ = £519 . 7 . $6\frac{6}{7}$.

lb. of Tea.	s.	d.		Cwt.	qr.	lb.		£	s.

Then say, if 1 —— 11 . 2 —— 7 . 2 . 18 facit 479 . 1

and subtract £479 . 1 from £519 . 7 . $6\frac{6}{7}$ there remains £40 . 6 . $6\frac{6}{7}$ = Discount allowed. Now A gains 10d. ℔' Ounce on his Plate, therefore his whole Gain is £70 . 9 . 2, from this take the Discount for $\frac{1}{7}$ of the Money, viz. £40 . 6 . $6\frac{6}{7}$ and there remains £30 . 2 . $8\frac{1}{7}$ = A's neat Gain. Now B gains 20d. ℔' lb. on his 858 lb. of Tea = £71 . 10, from this take A's Gain and the Remainder £41 . 7 . $4\frac{6}{7}$ is the Advantage B has by the Bargain.

QUESTION CCXIX.

Hours from 10 o'Clock to 6 = 8 and at 2 Miles an Hour = 16 Miles, then from 130 take 16 remain 114 Miles, then $\frac{2}{5}$ of 114 = $45\frac{3}{5}$ Miles, and this + 16 = $61\frac{3}{5}$ Miles from Exeter.

QUESTION CCXX.

	Min.		Work.	Min.		Work.	

If 44 —— 1 —— 1 facit $\frac{1}{44}$ } the Sum of these = $\frac{104}{2640}$.

If 60 —— 1 —— 1 facit $\frac{1}{60}$ }

	Min.		Work.		Min.	

Then if 30 —— 1 —— 1 facit $\frac{1}{30}$, and $\frac{104}{2640} - \frac{1}{30} = \frac{480}{79200}$ of the Work, then say

Work.		Min.		Work.	

If $\frac{480}{79200}$ —— 1 —— $\frac{1}{1}$ facit $\frac{79200}{480}$ = 2 Hours 45 Minutes.

QUESTION CCXXI.

$\frac{100}{8} = 12\frac{1}{2}$ Miles, then $12\frac{1}{2} - 2\frac{1}{2} = 10$, and this ÷ 2 = 5 Miles an Hour travelled by B, whence $12\frac{1}{2} - 5 = 7\frac{1}{2}$ Miles travelled by A.

QUESTION CCXXIII.

	Min.		Gall.		Min.	

If 9 —— 14 —— 1 facit = $1\frac{5}{9}$ Gallon.

31 —— 40 —— 1 = $1\frac{9}{31}$ Gallon.

Then $\frac{14}{9} - \frac{40}{31} = \frac{74}{279}$ Gallon.

	Min.		Gall.		Ho.	Min.		Gall.	

Then if 1 —— $\frac{74}{279}$ —— 3 = 180 facit $47\frac{207}{279}$ of Water in the Cistern at 5 o'Clock. Now the Tub holds 147 Gallons.

$47\frac{207}{279}$ in Tub at 5 o'Clock.
—————
$99\frac{72}{279}$ Lost out of the Tub.

Gal.		Min.		Gal.		Min.	Sec.

Then if 14 —— 9 —— $99\frac{72}{279}$ facit 63 . 48, add this to 5 o'Clock and the Answer is 6 Hours 3 Minutes 48 Seconds.

QUES-

Question CCXXIV.

M.   M.   M.   M.   Ho.   M.
$7\frac{1}{2} + 2\frac{1}{2} = 10$ in one Hour, then if 10 ——— 1 ——— 34 facit $3\frac{4}{10}$.
Then $7\frac{1}{2} \times 3\frac{4}{10} = 25\frac{1}{2}$ and $2\frac{1}{2} \times 3\frac{4}{10} = 8\frac{1}{2}$ Miles Anſwer.
For $25\frac{1}{2}$ Miles $+ 8\frac{1}{2}$ Miles $= 34$ Miles as before.

Question CCXXV.

35 Feet $=$ Depth, 12 Feet $=$ A's ſet off, and $35 - 12 = 23$,
then 23 Feet $-$ 100 Inches $= 8\frac{1}{3} = 14\frac{2}{3}$ Feet.   Then ſay,

Inch.   Hour.   Feet.
If $\frac{13}{16}$ ——— 1 ——— $14\frac{2}{3}$ facit $\frac{2816}{13}$ Hour, and

Hour.   Feet.   Hour.   Inch.
If $\frac{2816}{13}$ ——— $26\frac{2}{3}$ ——— 1 facit $1\frac{21}{24}$ inſtead of $1\frac{2}{11}$.

N. B. In a former Edition the Deſcent of A is $\frac{13}{10}$ Inch ℞ Hour,
and then the Anſwer comes out $2\frac{4}{11}$ Inches.

Question CCXXVII.

Sec.   Gal.   Sec.   Gal.
If 60 ——— 3 ——— 1 facit $\frac{1}{20}$ } then $\frac{1}{20} + \frac{1}{25} = \frac{9}{100}$.
75 ——— 3 ——— 1 $\frac{1}{25}$

Gal.   Sec.   Gal.   Min. Sec.
And if $\frac{9}{100}$ ——— 1 ——— 103 facit 19 . $4\frac{4}{9}$ Anſwer.

Question CCXXX.

A's Ground $= 182200$ Yards, B's $= 186200$, the common Dif-
ference is 4000 Yards, whence the reſt may be had by common
Addition of 4000.   Now their Sums $= 2002000$.   Then ſay,

Yards.   £   Yards.   £   s.
If 2002000 ——— 300 ——— 182200 facit 27 . $6 + \frac{108}{2002} =$ A's Mon.
27 . $18 + \frac{108}{2002} =$ B's.

Now the common Difference of their reſpective Shares being 12s.
the reſt may be eaſily had, and their Sum total amounts to £ 300.
Then 182200 Yards $= 103$ Miles 4 Furlongs 40 Yards $=$ A's
Journey, and B's $= 105$ Miles 6 Furlongs 80 Yards, now this
common Difference being 2 Miles 2 Furlongs 40 Yards, the reſt
may be eaſily obtained.   M.   F.
Their Sum total is   1137 . 4
Subtract the Diſtance of York   720 . 0 $=$ twice and back.
———————
417 . 4

Question CCXXXII.

Inches 13.5 cubed $= 2460.375$ and 7.5 cubed $= 421.875$ their
Difference 2038.5   Then if 64 ——— 9 ——— 2038.5 facit 286 *lb.*
nearly.

Question CCXXXIII.

7970 cubed $\div$ 2170 cubed $= 49.5446$.

Quɛs-

QUESTION CCXXXIV.

Say if $\begin{matrix}Toises\\11\end{matrix}$ —— $\begin{matrix}M.\\2\end{matrix}$ —— $\begin{matrix}T.\\1\end{matrix}$ facit $\frac{2}{11}m$. Then $\frac{2}{11} - 1\frac{3}{17} = \frac{3}{187}$ Min.

And if 17 —— 3 —— 1 facit $\frac{3}{17}$

Then if $\begin{matrix}Toise\\1\end{matrix}$ —— $\frac{1}{187}m$. —— $\begin{matrix}Toises\\11\end{matrix}$ facit $\frac{11}{187}$ Mi. Then again,

If $\frac{11}{187}$ of the Time — 1 Round, how many in the whole time $= 1$ T.

Thus, As $\begin{matrix}Time\\\frac{11}{187}\end{matrix}$: $\begin{matrix}Round\\\frac{1}{1}\end{matrix}$ :: $\begin{matrix}Time\\\frac{1}{1}\end{matrix}$: $\begin{matrix}Round\\\frac{187}{11}\end{matrix}$ $= 17$ Times Round.

QUESTION CCXXXV.

If 40 *Inches* —— 104 *Feet* —— 36 *Inches* facit 93.6 *Feet.*

And if $\begin{matrix}Feet\\93.6\end{matrix}$ —— $\begin{matrix}Hours\\113\end{matrix}$ —— $\begin{matrix}Feet\\73\end{matrix}$ facit $\begin{matrix}Ho.\\10\end{matrix}$. $\begin{matrix}Min.\\8\frac{1}{2}\end{matrix}$.

QUESTION CCXXXVI.

If 70 *Inches* —— 1064 *lb.* —— 2 *Inches* facit $30\frac{4}{10}$ *lb.*

QUESTION CCXXXVII.

100 *In.* $- 7\frac{1}{2}$ *In.* $= 92\frac{1}{2}$ *Inches.* Then say, if $7\frac{1}{2}$*In.* $- 1\frac{1}{2}$ *Cwt.* $- 92\frac{1}{2}$*In.* facit 2072 *lb.*

QUESTION CCXXXVIII.

To 448 *lb.* = Weight of Passengers and Baggage

Add 70 = Weight of the Vehicle

518

Then say, if 11 *Feet* —— 518 *lb.* —— 30 *In.* facit $11 - \frac{9}{11}$ *lb.*

And again, if 11 —— 518 —— 24 facit $94\frac{2}{11}$

QUESTION CCXXXIX.

From 100 *In.* take $7\frac{1}{2}$ *In.* remain $92\frac{1}{2}$ *Inches.* Then the Ratio will be as $92\frac{1}{2}$ is to $7\frac{1}{2}$ reduced $= \frac{370}{30} = \frac{3}{37}$ or as 37 to 3.

QUESTION CCXL.

From 9 *Feet* take 6 *Feet* remains 3, and this $\times$ by 9 *In.* $= 27$ *Inches.*

QUESTION CCXLI.

$62\frac{1}{2}$*lb.* $\times \frac{9}{2} = 281\frac{1}{4}$ *lb.*

QUESTION CCXLII.

$1 . 5 \times 12$ *Inches* $= 18$ *lb.* and $1 . 5 \times 28$ *Inches* $= 42$ *lb.*

Then 42 *lb.* $- 18$ *lb.* $= 24$ *lb.*

B b

QUES.

Question CCXLIII.

$$\frac{81 \; \square \; \text{Mill.}}{2} = 3280 \cdot 5 \text{ then } \square \sqrt{3280 \cdot 5} \; \&c. = 57275650 \; Miles.$$

Question CCXLIV.

$$115 \; \square = 13225 \; Degrees.$$

Question CCXLV.

$$\frac{81 \square}{424 \square} = \tfrac{1}{27} \text{ of the Earth's Light.}$$

Question CCXLVI.

$$\frac{32 \square}{777 \square} = \text{ the Proportion } 1024 \text{ to } 603729$$

Question CCXLVII.

$$\frac{\text{lb.} \; 1 \square \; lb.}{112 \times 10} = 11 \cdot 2 \text{ then } \square \sqrt{11 \cdot 2} = 3 \cdot 3466 \text{ femidiameters}$$
from the Earth's Centre.

Question CCXLVIII.

$$\frac{3985 \square \times 16}{3985 + 50 \square} = 15 \cdot 9 \; \frac{11312575}{16281225} \quad \overset{oz. \quad drs.}{}$$

Question CCXLIX.

$$\frac{\overline{7970}^{1^3} \times 100}{\overline{2170}^{1^3} \times 123\frac{1}{2}} = 40 \; \tfrac{117}{1000} \text{ Times more Mattter contained in the}$$
Earth than in the Moon.

Question CCL.

At the New Moon the enlightened Hemifphere will be more diftant from the Earth than its mean Diftance by the Moon's Semidiameter.

Question CCLI.

$$4 \cdot 63 - 1 \cdot 5688 = 30611 \times 1728 = Cub. \; In. \times 1\tfrac{1}{2} \; Foot.$$
$$2592 = 7931 \cdot 52oz. = 4 Cwt. \; 1 qr. \; 19 \, lb.$$

Question CCLV.

$$16 \times 6 \square = 576 \text{ and } 16 \times 10 \; \square = 1600 \text{ their Difference is } 1024$$

Question CCLVI.

$$\frac{16 \times 19 \cdot 5 \square}{6} = 1014.$$

Que&

Question CCLVII.

As 16 : 1 □ :: 400 : 25 its √ is 5 Seconds.

Question CCLVIII.

$$\text{As } 16:1\square :: 3923\times5000:\frac{19615000}{16}=\sqrt{1225937}=1107=18.27\frac{483}{2207}$$
Min. Sec.

Question CCLXIII.

First, Sec. 60 □ = 3600. Then say ⅌ Quest. CCLIX.

In.   Sec.   In.   Sec.   Vib.   M.   Vib. M.   Sec.
As 39 . 2 : 3600 :: 18 : 88.5 Then as 88 . 5 : 1 :: 8 : $\frac{1}{11}$ = 5 ferè then ⅌ Quest. CCLVII. 5 Sec. = 400 Feet, the Heighth of Salisbury Steeple.

N. B. *The Questions in* Recreation XVIII. *respecting Annuities, may be more readily answered by a Table of Logarithms, or by my* Complete Annuitant.

Question CCLXXIX.
$\frac{2}{3}$ of $\frac{1000000}{1}$ = 66666$\frac{2}{3}$.

Question CCLXXXI.
By the Rule of Three Indirect, say,

lb.   Feet   lb.
If 20 —— 100 —— 8 facit $\frac{100\times20}{8}$ = 250 Feet.

Question CCLXXXII.

lb.   I.   lb.
If 60 —— 8 —— 100 facit $\frac{40}{3}$ or 3 to 40.

Question CCLXXXIII.
$\frac{8}{48}$ = $\frac{1}{6}$ = 6 to 1.

Question CCLXXXIV.
2 Hours = 120 Min. facit $\frac{120}{40}$ = 1 to 3.

Question CCLXXXV.

30 × 12 = 360, and 360 × $\frac{60}{12}$ = 1800 Feet, subtract 60 Inches = 5 Feet, remain 1795 Feet.

Question CCLXXXVI.

5 × 5 = 25, now 25 is the $\frac{1}{2}$ of 50, therefore their Ratio is 2 to 1.

B b 2   Ques-

Question CCLXXXVII.

If 1 $\overset{C.Inch}{———}$ 10 $\overset{oz.}{———}$ 9 $\overset{C.In.}{}$ facit 90 Ounces in Air.

If 1 $\overset{C.In.}{———}$ 256 $\overset{gra.}{———}$ 9 $\overset{C.In.}{———}$ facit 4 . 16 $\overset{ez. dwts.}{}$ then from 90 $\overset{oz.}{}$ take 4 . 16 $\overset{ez. dwts.}{}$ Remains 85 *oz.* 4 *dwts.*

Question CCXCI.

If 10 . 36 $\overset{oz.Gold}{———}$ 1 $\overset{C.I.}{———}$ 63 $\overset{oz.}{———}$ facit 6 . 081 $\overset{C.I.}{}$

If 5 . 85 $\overset{oz.}{}$ of Silv. $———$ 1 $\overset{C.I.}{———}$ 63 facit 10 . 77 Cub. In.

Then say ⅌ Alligation $\begin{array}{c} C. I. \\ 8 . 2245 \end{array}$ $\left|\begin{array}{c} 6 . 081 \\ 10 . 77 \end{array}\right.$ $\left|\begin{array}{c} C. I. \\ 2 . 5455 \ \text{Gold} \\ 2 . 1435 \ \text{Silver} \\ \hline 4 . 6890 \end{array}\right.$

Then if 4 . 689 $\overset{C.I.}{———}$ 63 $\overset{oz.}{———}$ 2 . 4555 $\overset{C.I.}{}$ facit 34 . $\frac{2}{10}$ Ounces.

And if 4 . 689 $———$ 63 $———$ 2 . 1435 facit 28 $\frac{8}{10}$ Oz. of Silver.

Question CCXCIII.

By $\begin{array}{c} oz. \\ 3 . 5 \\ 12 \\ \hline 42 . \end{array}$ $=$ Weight of the Glaſs Bottle.

and $\frac{42}{1 . 36} =$ 30 . 88235 Cubic Inches in the Bottle.

231 . - - - $=$ Ditto in the Brandy.

261 . 88235 $=$ Ditto in both.

Then 261 . 88235 × by 5427 ÷ 142 . 1236 = Weight of Salt Water occupied by the Bottle and Brandy. Then .48926 $\overset{oz.}{=}$ Weight of a Cubic Inch of Brandy × 231 = Cubic Inches in Gallon produce 113 . 02 ferè $\overset{oz.}{=}$ Weight of Brandy, add to this the Weight of the Bottle facit 155 . 02 $\overset{oz.}{=}$ Weight of both. Then from this take the Weight of the Salt Water leaves 12 . 896 $\overset{oz.}{}$ the Anſwer, ſuppoſing the Bottle full.

Question CCXCV.

216 = Gallons in a Tun, this × by 1300 Tuns, produce 280800 Gallons; this Product × 282 Cub. Inches facit 79185600 Cubic Inches, and this × by 5949 facit 47107513,44 Ounces = 16287 . 2 . 19 . 9. $\overset{C. \quad gr. \quad lb. \quad oz.}{}$
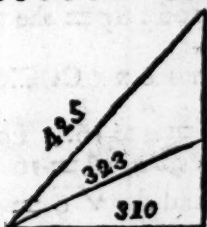
Ques-

Question CCCXIX.

Question CCCXX.

Question CCCXXI.

Question CCCXXII.

Question CCCXXVII.
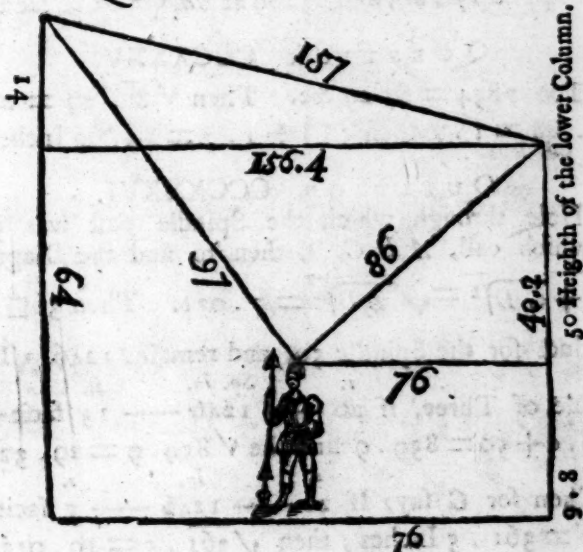
Question CCCXXIII.

$$\sqrt{\left.\tfrac{125}{3}\right|^2 - \left.\tfrac{125}{3}\right|^2} = 36.07 = \text{the Perpendicular, then } 41.666 =$$

one of the Sides or Base × by $\frac{1}{2}$ the Perpendicular 18.035 gives 752 nearly.

Question CCCXXIV.

If 18 —— 1 —— 24000 facit $1333\frac{1}{3}$ Feet = Area. Then here are the Base and Area of an Isocelas Triangle given to find the other Sides; now $\dfrac{1333\frac{1}{3}}{44} = 30.303 =$ Perpendicular

∴ $\sqrt{44|^2 + 30.303|^2} = 53.4$ &c. either of the Sides; then 53.4 &c. × 2 = 106.85 = the Sum of the Two equal Sides.

Question CCCXXVIII.

$$A \qquad B$$

The Area of $A\ 4\frac{1}{2}$ to 8 = 9 to 16. Then $A + C : B$ as 17 to 8 = 36 to 16. Whence $A = 9$, $B = 16$ and $C = 25$; then the Sum of the Sides = 50, and the $\sqrt{9} = 3 = A$, $\sqrt{16} = 4 = B$, and the $\sqrt{25} = 5 = C$. Whence the Area of the Triangle may be easily found = 6 Poles, and these × $272\frac{1}{4}$ = the ☐ Feet in a Pole; and then × Depth 6 Inches and this last Product × 1728 Cubic Inches, and ÷ 231 solid Inches, and then reduced by 63

Hhds. Gall.

Gallons, facit $1163.47\frac{1}{2}$.

Question CCCXXXIV.

$$42 + 14.5 = 56. \times \tfrac{22}{7} = 177.7 \text{ and } 177.7 \times 145 = 2576.65$$

In. Feet   Feet   s.   d.

and this ÷ 144 = 17.89, and 17.89 at 8 d. ψ Foot, facit 11.11.

Question CCCXXXV.

$3.25☐ \times .7854 = 8.29$ &c. Then $\sqrt{8}.29 = 2.88$ and the $\sqrt{2}.88 = 1.7$ then 5☐ ÷ 1.7 = 14.69 Inches.

Question CCCXXXVI.

The Hole through which the Spindle past was 5 Inches Square, which call, $A\ B\ C\ D$, then to find the Diagonal say,

$$\sqrt{BC|^2 + CD|^2} = \sqrt{BD|^2} = 7.071. \text{ Then } 36☐ = 1296.$$

Then deduct for the Spindle 50, and remains 1246. Then say

s.   Sq. In.   s.

by the Rule of Three, if 20 —— 1246 —— 13 facit 809.9. Then 809.9 + 50 = 859.9 and the $\sqrt{859}.9 = 29.324$ Inches

s.   In.   s.   In.

for B. Then for C say, If 20 —— 1246 —— 5 facit 311.5 then + 50 = 361.5 Inches; then $\sqrt{361}.5 = 19.013 = C$.

Obſervation on QUESTION CCCXXXVII.

According to the indubitable Principles of Geometry, there can only be one Square inſcribed in a Circle, and one Square circumſcribing it, hence there is no greateſt and leaſt.

QUESTION CCCXL.

The greater Diameter being 20 Feet, and this multiplied by 3 . 1416, the Circumference of that Circle, whoſe Diameter is 1, facit 62 . 832 Feet.

QUESTION CCCXLI.

63 Feet = 21 Yards, its $\frac{1}{2}$ = 10 . 5 Yards, this $\times$ by 30 = the Semidiameter of the Circle, facit 315 Yards.

In QUESTION CCCXLIV.

As $4 : 7\square :: 40 : \dfrac{49 \times 40}{4} = : \sqrt{\dfrac{49 \times 40}{4}} = 22 . 136$ Inches.

QUESTION CCCXLVII.

Inch
1 , 25 $\square$ = 1 . 5625 and this $\times$ 20 = 31 . 25 Feet.
.875 $\square$ = .765625 $\times$ 50 = 38 . 28125 Feet.

Then ſay, If 31 . 25 *(Feet)* —— 1120 *(lb.)* —— 38 . 28125 *(Feet)* facit £ 20.

QUESTION CCCL.

64 . *(Feet)* $\times$ .03125 *(Feet)* = 2 . 009375, and this $\times$ 1728 = 3472 . 2 *(Cub. Inches.)*

Then if 1 *(C. Inch)* —— $4\frac{2}{11}$ *(oz.)* —— 3472 . 2 *(C. Inches)* facit 15151 . 5 *(oz.)* . Then if 34944 *oz.* —— £21 —— 15151 . 5 *oz.* facit £ 9 . 2 . 1.

QUESTION CCCLIV.

112 . 5 *(Feet)* $\times$ 32 *(Feet)* = 3600 *(Feet)*, and this $\times$ 5 . 5 = 19800 *(Feet)* ſolid Feet.

Then deduct for the Gang-way 112 . 5 *(Feet)* $\times$ 5 . 5 *(Feet)* $\times$ 4 . 5 *(Feet)* = 2784 . 4$\frac{1}{2}$ *(Feet In.)*,

remain 17015 . 7$\frac{1}{2}$. Then find the ſolid Content of a Bale of Goods. Thus 3 . 4 *(Feet In.)* by 3 Feet deep, and 2 . 4 *(Feet In.)* broad = 23 . 4 *(Feet In.)* ſolid. Then 17015 . 7$\frac{1}{2}$ *(Feet In.)* $\div$ 23 . 4 *(Feet In.)* = 729 $\frac{1}{4}$ Bales nearly.

QUES-

Question CCCLV.

| lb. | Foot | lb. | | Feet | | Feet | Feet |

Say, if 16 — 1□ — 2184 facit 136 . 5, then 4.25 × 8 = 34 Feet, and 136 . 5 ÷ 34 = 4 . 014706 = Depth. Then from this take .0625, remain 3 . 952206 this × 34 × 1728 solid Inches will

| Hbds. Gall. | 231 × 63 |

give 16 . 40.

Question CCCLXI.

Remark, it muſt be cut off perpendicular to the Axis.

Question CCCLXII.

$1 . 25$ cubed $\times . 7854 = 1 . 2272$ and $\frac{231 \ \text{Cubic Inch.}}{8 \ \text{Pints}} = 28 . 875$

Inches

and this $\div 1 . 2272 = 23 . 5294$.

Question CCCLXV.

True Proportion, as .6168 to .7854, or as 1 to 1 . 273.

Question CCCLXVII.

Miles

2170 cubed, and this Product × by Cubic Inches in a Mile, and this laſt Product × .5236 (being ⅔ of .7854) and this laſt Product ÷ 17203 . 2 (the Cubic Inches in a Quarter) gives the Anſwer 79107034948470144000 Quarters. Then to find what Quantity of Yard-wide Stuff will make her a Jacket, the Rectangle of the Number of Yards in her Diameter and Circumference give 45824284391424.

Question CCCLXVIII.

Is performed much after the ſame manner, only remember to add 120 for the Height of the Atmoſphere to the Earth's Diameter, then proceed with Care and Patience.

Question CCCLXX.

Or uſe this Analogy, as the Difference of the Diameters 18 is to

42 the Depth ∷ 72 Great Diam. : $\frac{42 \times 72}{18} = 168$ the whole

Altitude. *N. B.* This Rule is general for every ſtrait-ſided Solid, whoſe Ends are parallel and ſimilar.

Question CCCLXXV.

Find the Area of the Diameter 21, thus 21□ × .7854 = 346.3614 this × the Length 31 = 10737 . 2034, and this laſt Product × 1728 the Cubic Inches in a Foot, and ÷ 231 Quotes 80319 Gallons =

| Tuns | Gall. |

318 . 183 &c.

21 DE 64

F I N I S.